

# MASSACHUSETTS PLOUGHMAN

## NEW ENGLAND JOURNAL OF AGRICULTURE

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VOL. LX. - NO. 39

BOSTON, MASS., SATURDAY, JUNE 22 1901

WHOLE NO. 3100

MASSACHUSETTS PLOUGHMAN  
NEW ENGLAND JOURNAL OF AGRICULTURE  
Official Organ of the N. E. Agricultural Society.

MASSACHUSETTS PLOUGHMAN PUB. CO.,  
Publishers and Proprietors.  
ISSUED WEEKLY AT

NO. 3 STATE STREET,  
Boston, Mass.

TERMS:

\$2.00 per annum, in advance. \$2.50 if not paid in advance. Postage, \$1.50. Single copies, 25 cents.

Subscriptions discontinued, except at the option of the subscriber, until all arrears are paid.

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Correspondence from practical farmers, giving the results of their experience, is solicited. Letters should be addressed to the editor, and the name of the writer will be printed or not, at the writer's option.

THE PLOUGHMAN offers great advantages to advertising men. Its circulation is large and among the most active and intelligent portion of the community.

Entered as second-class mail matter.

Agricultural.

Roots as Stock Food.

We have strong doubts if it is profitable to grow roots as stock feed in this country, either in the Eastern or Western States. When they can be grown for market those which are not of the proper market size can be used for that purpose to very good advantage, but as a fattening food corn can be grown under good conditions to produce more pounds of flesh at less cost than with any root crop that we know. As a succulent food, to assist digestion and keep the organs in good condition, ensilage, when properly used, has shown that it is far superior to any roots, and the labor of growing and putting in the silo is much less while it has the additional advantage that, if well packed in a good silo, it may be kept more than one season before being used, if not needed.

The growing of roots for stock feeding was a custom borrowed from England and other European countries, where corn does not grow, and thus they have not the use of it as a grain feed excepting as purchased from this country, nor as ensilage. But as a food to be used as a change when one has no silo, and it may be not stock enough to make it necessary to build and fill one, it may prove profitable to grow roots even for feeding purposes, though as we have said above, we would try to grow them in such a way that we could market the best at a price which would leave those used for the stock practically without cost.

When having them to feed out, there is a difference in the way they are used and the stock they are given to in the profit that may be derived from them. We have fed mangold-wurzel and sugar beets, carrots and both rutabaga and English turnips, and we thought we obtained most value from them when given in moderate amounts to store stock, that is, to growing young stock, cows with calf, breeding sows and sheep in the winter. Indeed, we doubt if the swine and sheep are not better for having a small daily ration of raw beets or turnips than they would be if given ensilage.

We prefer the sugar beet or the globe beet to the mangold, partly because we think they are surer as a crop and because they keep better during winter, and the rutabaga to the English turnips for the same reason, though in both cases the largest possible crop may be grown at the least cost with the mangold and the flat turnips.

Another use for roots in stock feeding is to commence the fall fattening of animals with them before beginning heavy feeding of grain. They seem to stimulate the digestive organs so that when the heavier or heartier, more nutritious grain is given it is much better assimilated, and builds up the whole flesh and fat much faster than when the stomach has not been prepared by the lighter food. It may be upon the same principle that the person intending to eat a hearty dinner begins with a plate of soup which has but little nutrition in it, but serves as a preparation for the other food that is to follow.

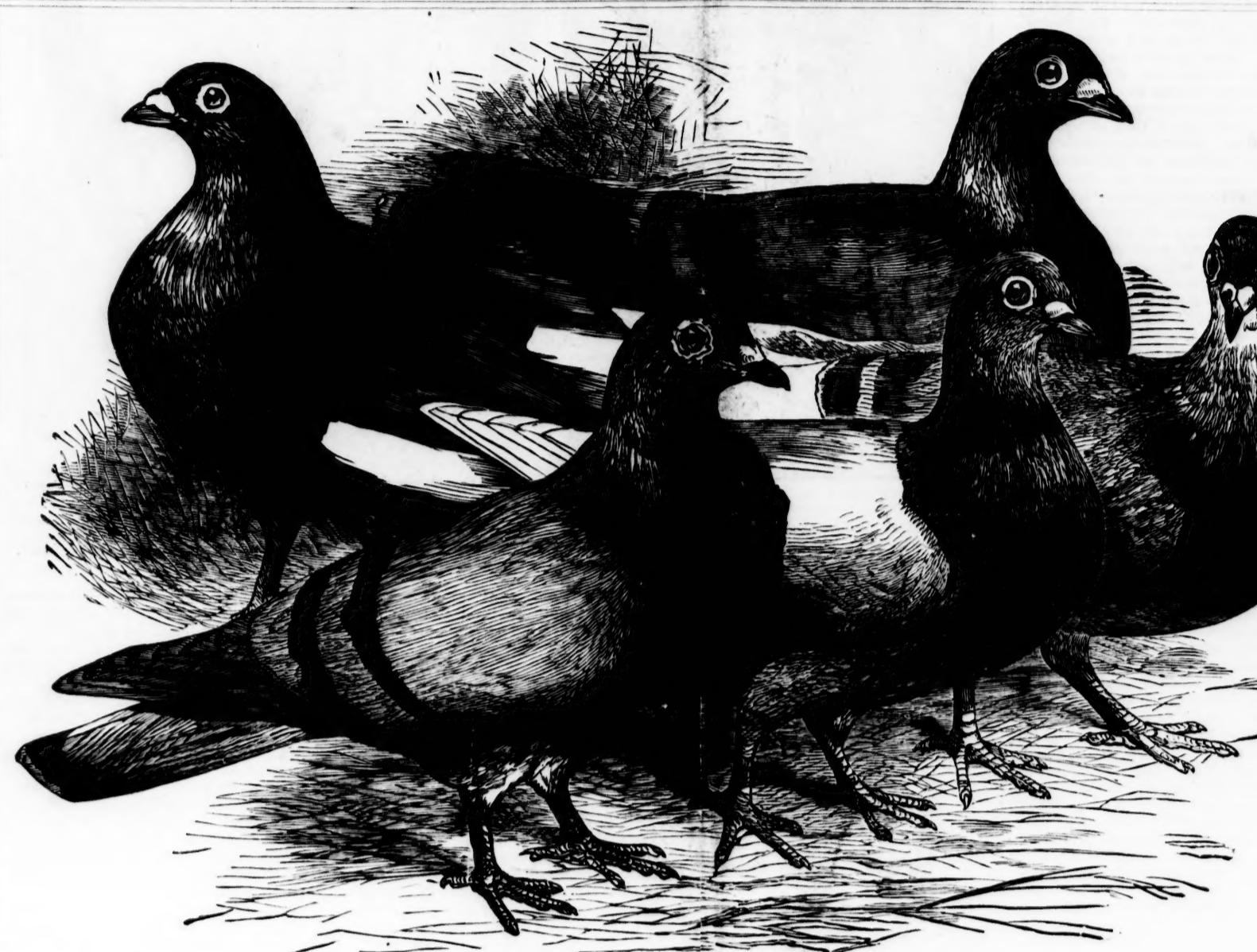
But we never have found it necessary to grow roots for this purpose. There was usually a good grass feed early in the fall, and, unless from the garden, unmarketable roots, even leaves from cabbage, beets and turnips, some unripe corn, pumpkins and squash, even early fall apples, sweet apples having the best reputation, to dispose of the refuse in some fashion. Chemists were called in.

Methods for drying the refuse and extracting all the grease were developed. The grease went into the manufacture of soap. The residue was converted into fertilizer. After jelly had been made from the roots, the hoofs and horns were used for buttons, leather handles, etc. The health of the neighborhood and the income of the slaughter men went up.

The development of the tremendous animal color industry is altogether due to chemical experiment with waste products. In the dry distillation of coal or wood for gas, the gas passes through a succession of washers, which take out its impurities. These impurities, including ammonia, carbolic acid, acetic acid and various nitrogen compounds, were formerly waste, but are now separated and used. In fact, nearly all of the acetic acid in the market is secured from the dry distillation of wood.

Five per cent. of the coal used in gas manufacture is coal tar, and by experiment chemists found that this coal tar, always regarded as waste residue, contained substances useful in the making of dyes. Fully

CARRIER PIGEONS.



grown roots can be used as a substitute for the ensilage, and that either will prepare the stomach of the animal to digest and assimilate the more concentrated grain foods, and we believe that in certain cases as of breeding stock roots are better than grain, and in winter, when clover pasture is not available, better than any other green food.

We have cooked roots of nearly all kinds for feeding to stock, and also apples, and fed them mixed with grain and with skimmed milk, and while we were not sure that potatoes and sweet apples did not give better results when cooked than when fed raw, we doubted if the possible gain paid for fuel and labor, and were very sure that any of the other roots gave better results when fed raw, but made free from dirt by washing.

Wealth from By-Products.

The expert chemist is an important figure in the industrial world today. He can earn not only fame, but also a large income, and he saves manufacturers many millions of dollars every year.

Of course, nine out of ten chemists stick to the old routine, but the tenth goes in for industrial chemistry, and either allies himself to some progressive and flourishing manufacturer or independently conducts his industrial experiments and spends his time and brains in devising schemes for the utilization of by-products.

One doesn't talk much about waste products now. So little is wasted that it doesn't deserve mention. The Chicago joke that the packing houses utilize everything about the pigs save their squeals, and are planning to make the squeals into whistles, has more probably than most Chicago jokes.

Probably the great slaughter houses furnish the most familiar illustration of the modern thrift in the utilization of what was formerly considered waste; and even the smaller abattoirs, while they haven't attained the scientific perfection of the Chicago packing houses, are reformed characters.

It was only a few years ago that the abattoir was usually built upon the bank of a stream, and all refuse was washed into the stream. In course of time neighbors were inconvenienced enough to protest against the practice. Sanitary bees invaded innumerable bonnets, and a howl of protest went up against the abattoirs. It was necessary that the bees had given the grain without them. Of course, we could not test our experiments by daily or weekly weighing of the animal, as is done at the Agricultural Shows, but we had a good opinion of our testing ability, and perhaps it was about as reliable as the scales which tell how much has been gained in a week, but cannot tell until after the slaughter how much of that has been solid flesh, and how much is water that will be lost in killing or afterward.

As keeping says, "that is another story," and we may comment upon it another time when writing of the gain in live weight made under certain conditions which we have not thought added much to the merchantable meat to be sold.

We believe that where corn can be grown, ensilage and corn meal are the cheapest and best fattening foods, and where they are not

ten per cent. of the weight of the coal tar is available for this purpose, and upon the basis of this discovery the enormous coal tar color industry has grown.

New plants have been put into many of the coke regions to collect the coal tar liberated in coke manufacture, and it will not be long before the open coke oven will be a thing of the past. Where coal is burned in an open oven no coal tar can be collected, but by burning the coal in closed retorts all the coal tar can be recovered and used.

This color industry, which chemists call the greatest of the modern chemical industries, has called for other chemical developments. It demands large quantities of sulphuric acid, of soda, etc., and chemists have sharpened their wits upon the problem of obtaining these products at a minimum expense.

Until recently the greater part of the sulphur used in this country was imported from Sicily. Now, through chemical processes, the sulphur contained in gold, silver and zinc is liberated and burned to sulphur dioxide, from which almost all of our sulphuric acid is made.

In connection with all of our mining development, chemistry has played an important part. Ores can be mined with profit today which would have been practically worthless a few years ago. In the old mining days only high grade ore was profitable, and only a certain percentage of the gold contained in the ore was freed.

The tailings thrown aside held a considerable quantity of gold, but could not be worked by the ordinary processes, so were piled mountain high and disregarded until chemists discovered that the gold was soluble in potassium cyanide, and that by washing in a very weak solution of potassium cyanide, the tailing gold could be profitably separated from the refuse. The same process has led to the working of low grade ores, ranging \$4 to \$5 to the ton, which could not be profitably worked by the ordinary mining processes.

The silver contained in lead has also been freed and utilized. It was found by chemists that when the melted lead was mixed with zinc, the silver formed an alloy with the zinc and floated to the surface. When this mass was taken from the lead and heated in a retort, the zinc, being volatile, was freed and left a deposit so rich in silver that it was easily purified.

The applications of chemistry to mining processes are legion, but it is in other branches of industry that practical chemistry is now making its strides. The Standard Oil Company is a hardy exponent of the merits of industrial chemistry and has expert chemists constantly employed. As for that matter, so have all the great gas plants, coke plants, sugar refineries, starch factories, etc.

The original waste of the oil business was enormous; now it is next to nothing. Of course, the primary aim is the production of kerosene, but crude oil contains on the one side oils lighter than kerosene, such as gasoline, naphtha, and, on the other side, products much heavier than kerosene, such as paraffin. At one time all of these by-products were waste; now every one of them is utilized.

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and fuel oil, much of it being made into car and axle grease. After all these processes a solid mass of carbon is left in the retorts, and this is used to a considerable extent in making carbon sticks for electric light.

When one considers that until a few years ago every one of these products save kerosene was absolute waste, one can realize to some extent the place chemistry is taking in the industrial world.

The dairy business is one of the industries with which the chemist is busying himself, and the results so far have been most satisfactory, although a much broader field for the use of casein is prophesied. The large creameries, having turned out their cream and butter, were confronted by great quantities of skimmed milk for which there was apparently no use. Skimmed milk was a drug on the market, and in many cases was drained off into neighboring streams.

The chemist stepped in and changed all that. The milk is curdled with alkali, and a dried product produced which is soluble in water. This casein has been used for paper sizing, kalsomining, etc., and successful experiments have been made with it in the manufacture of artificial foods. Moistened with water to a gelatinous consistency, put under a hydraulic press and then washed in acid, it forms a hard and indissoluble substance, of which buttons and similar articles are made. Chemists say that the casein powder, which is like a fine tasteless flour, may be substituted for milk in cooking, and has a great future in this respect.

Chemistry applied to the sugar industry has been invaluable; and particularly in connection with the beet sugar manufacture, has recently effected a wonderful saving.

The waste in the making of beet sugar was at first enormous, because the molasses was absolute waste. It contains products from the beet roots which give it a very bitter taste, and is also rich in an alkali which spoils its flavor. So, although more than one-half of the weight of the molasses was sugar, it was unavailable save for fermentation and alcohol.

Experiment proved that dry lime, mixed with the molasses, combined with sugar, forming a product insoluble in water. Washing the molasses would then separate this product from all the other elements. The lime and sugar product being heated with carbonic acid, the lime combined with the carbon, leaving the sugar free to easily separate. By the process today ninety per cent. of the sugar is recovered from beet molasses, and there is practically no molasses in the beet sugar factories.

In the manufacture of cane sugar the molasses is about as valuable as the amount of sugar contained in it would be, so there is no use for the process adopted in beet-sugar making, but there is less weight of sugar in the molasses than there was formerly.

This fact, and the fact that the molasses is now made in vacuum pans, and cannot be burned or thickened as it was in the old-fashioned open pans, accounts for the fact that there is no more black molasses and no more black gingerbread, such as mother used to make.

The glucose manufacturers have called in chemists, and found a new source of profit.

The corn grain has, in addition to its starch product, a tiny germ in which lies its life principle. This germ was formerly crushed with the starch, separated and thrown aside as waste. Very lately it has been shown that this germ is rich in oil, which can be

utilized. The germ is now separated from the starch and crushed. The oil gathered finds a ready market, and within the last five years millions of dollars worth of this oil has been exported to Europe, where all corn products are in great demand. After the oil is taken from the germ, the gluten left in the cake is used for varnish, and the rest is used for cattle food.

The cornstalk also is ground and used for cattle food, but first the pith of the stalk is extracted and used for the lining of vessels, the theory being that if a fissure occurs in the stalk, the pith lining is used to seal the fissure.

The cottonseed oil industry has eliminated its waste almost entirely, although twenty years ago every part of the cottonseed save the oil was waste product. In the cottonseed oil factory the seed is collected after coming through the cotton gin, and is first stripped of its lint, which is used in the manufacture of certain kinds of paper, felts, etc. Next the shell of the seed is removed and either ground for cattle food or used for fuel. In the latter case the ashes are collected for potash.

The kernel of the seed is ground and pressed to extract the oil, and the residue is used for cattle food. The oil in process of refining gives off a waste which enters into soap making and the making of oleomargarine.

Glycerine, used in such great quantities at present, was for years a waste product. All waste from fatty oils contains compounds of an acid with glycerine. The acid will combine with an alkali, leaving the glycerine in a watery solution, from which it is collected by evaporation and distillation. Immense quantities of this reclaimed waste product are used in the making of explosives.

When steel is melted in a Bessemer converter the phosphorus, which used to be a nuisance, is separated from the steel by the introduction of lime, with which the phosphorus combines readily. This phosphorus is then used as a fertilizer.

The slag from iron furnaces is converted into cement.

The tin is taken from old tin cans by chemical process and is used over and over again.

Even the acids used for chemical purposes are not allowed to outlive their usefulness with the accomplishment of their purpose. The Standard Oil Company formerly wasted great quantities of sulphuric acid after it had been used to remove the impurities from the oil. The acid was drained off into the river. Now it is used in a fertilizer particularly adapted to soil where phosphate rock must be dissolved.

Then again in certain great galvanizing works the iron was cleaned with sulphuric acid, which was then run into the nearest river. This method of disposing of the waste was forbidden. Chemists were consulted. The solution was made stronger so that it could be clarified and used repeatedly. Finally, when it could no longer be used for washing, it was evaporated, and the sulphate of iron extracted from it. This by-product proved so valuable that it is now the chief product of the works.

From the waste product of the wine industry chemists now obtain a crude cream of tartar, which, refined to a high degree, constitutes the acid principle of the best forms of baking powder.

The list might be protracted indefinitely, and there seems to be in the industrial world today no product so utterly worthless that

it may not at least find profitable incarnation in cattle food, fertilizer or glue.—N. Y. Sun.

One Hundred and Fifty Bushels of Corn Per Acre.

Recently we published an editorial casting some doubt upon the raising of 150 bushels of corn per acre, and making a statement that, while it might have been done, we had never had the good fortune to be able to prove it, with our own knowledge. However, it has always been our policy to give both sides of the question, believing that it is the only way to get at the truth.

In this connection we have a very courteous communication from A. A. Montgomery, secretary of the Hampshire, Franklin and Hampden Agricultural Society, in which he encloses a statement of Frank M. Foote of Chester Centre (postoffice Huntington, Mass.), who competed for the corn premium at their fair last fall, and Mr. Montgomery believes it a true statement, as every bushel was measured, and Mr. Foote had a harvest of seventy-five bushels per acre of shelled corn. He will also compete again this year under the same class.

Mr. Frank M. Foote's statement to the Agricultural Society at the time of entering his crop was as follows: "The one acre of corn I entered for premium had been in grass always. My father and grandfather never had it plowed. Last year I had a fine piece of corn on the turf, and this year I raised, on the same ground, 150 bushels of corn and five tons of dry stover. I had 164 stocks, manure was plowed in, about thirty loads being used, harrowed thoroughly with a wheel harrow; planted with corn May 30; there was never a hoe used; the piece was cultivated every week with a Planet Junior cultivator, the first week used weeder."

His statement was as follows: The crop was made debtor to plowing \$3, manure \$18, harrowing \$1.50, planting \$1, seed 25 cents, cultivating five times \$2.50, harvesting, husking, etc., \$11.80; total, \$38.05.

Credit as follows: 75 bushels of shelled corn \$64.17; also five tons of stover \$25; total, \$89.17, showing a net profit for the acre of corn of \$51.12.

The same agricultural society published a report of a crop of corn raised by F. A. Martin of Leeds, Mass., in which he claims to have harvested 150 bushels of ears to the acre. This statement is something as follows: The ground was in corn in 1898 and 1899. The soil consists of rather heavy loam; used thirty loads stable manure and three hundred pounds corn fertilizer.

Plowed once with weeder when corn first came up, then cultivated it twice with a disk harrow, the price for the two days \$8; used twenty loads of ashes, thirty bushels each; planted June 4, with corn planter, one-half bushel common yellow seed corn; cost of seed fifty cents; cost of planting seventy-five cents.

Went over once with weeder when corn first came up, then cultivated it twice with a disk harrow, the price for the two days \$8; used twenty loads of ashes, thirty bushels each; planted June 4, with corn planter, one-half bushel common yellow seed corn; cost of seed fifty cents; cost of planting seventy-five cents.

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## Agricultural.

## Dairy Notes.

Just now there seems to be some controversy among dairymen as to the comparative merits of having the cream taken from the milk by a hand separator at home or a skimming station where a power separator will do the work for many farmers. As we have not had opportunity to examine the practical working of either method, we will not express any opinion, but set forth some of the arguments offered by those who have taken different views.

Those who believe in the farm separator say that having the skimmilk at home to feed to calves and pigs while it is warm and sweet is equal to  $\frac{1}{2}$  or  $\frac{1}{4}$  cents extra value for the pound of butter, while the cost of hauling to the creamery is so reduced as to add about another  $\frac{1}{2}$  cents to the butter value, and the factories average about 1.15 cents less in cost of butter making when they get only the cream than when they have to separate it from the whole milk before churning. A gain of from 3.15 to 4.15 cents a pound in value of butter from the milk is an important item.

Separated cream does not sour as quickly as the whole milk, and is less liable to be rejected, as the cream is taken from the milk when in best condition as fresh drawn. The farmer has less cans to wash and scald, less to keep cool, and a lighter load to take to the creamery, and only empty cans to take back, and if he wishes he can have those cans washed and steamed at the creamery, which will in part compensate for extra labor of running the separator, beside insuring that the cans are better cleansed than they are at many of the ordinary farms, especially after they have been used to carry home sour skimmilk.

With the farm separator it will not be necessary to go to the creamery on the Sabbath day, or for the creamery to run, and on other days neighbors may combine so that one can carry the cream that is taken from several dairies, where each might have a load if all the milk were to be taken and the skimmilk taken back. Each one has the skimmilk from his own cows, and if he wants to drink it and allow his family to do so, or to feed it out, it will be his own fault if it is not sweet and wholesome.

The advocates of the skimming station claim that when skimmilk is heated to 185° before it is sent back, all germs in it are killed, and it is even better than when separated at home, which we do not believe. The cost of wear and the care of fifty or sixty farm separators is greater than on one large one, and the aggregate of labor cost of running is greater, which is true, but the labor on the farm is a part of what the farmer has to dispose of for his profit.

They say that if only cream is taken to the creamery the farmers must go as far with a light load as he did when he carried all the milk. Co-operation may remedy this, and if not the horses would prefer the light loads, especially over bad roads. They also claim that it is more difficult to obtain an accurate test of the butter fat in cream than in the milk, and that there is more danger that all the several farm separators will not be as well cleaned every day as would the one large one at the creamery or skimming station. We cannot dispute either of these claims, though we are not sure that they are correct. We have read of creameries where there was as much carelessness and as much neglect of cleanliness as the poorest dairyman would be guilty of.

We know reports from some of the best dairy sections show that farmers are putting in farm separators, and that some of the creameries have encouraged them to do so, even providing capital to purchase them when farmers were unable or unwilling to do so, and we have not heard that either party has regretted such action.

In a locality where there are dairies enough so that a supply for the creamery can be obtained within a few miles, and where it is in charge of a buttermaker who is both competent and careful to produce the best results from the milk, the better way may be to take the whole milk, but where it must be collected over a large territory the use of a separator at home seems to offer the best results in lessening the labor of the farmer and improving the quality of the butter product; and if any of the patrons are found to furnish poor cream or that which is tainted in any way let an inspector visit them, point out the cause of the trouble, and inform them that unless reformation is made the cream will surely be rejected.

Whether the cause is lack of cleanliness, foul stables, improper food, impure water or diseased animals this inspector should be competent to detect it, and should be well supported, not only by the manager of the creamery, but by all other patrons in any measures he may order to be taken to remove the fault.

To run all milk in a thin sheet over a series of pipes filled with ice water is all that is needed to aerate and cool it, at the same time it is perhaps the easiest and least expensive method of insuring long keeping. Such a series of pipes can be prepared at small cost, and with a strainer at the bottom or place where milk passes out, there will be but small chance of injurious bacteria increasing and multiplying there so rapidly as to insure an early accession of the rancid flavor, and several others of the many bad flavors.

## Butter Market.

Although butter receipts have not varied much from the previous week, and prices are not materially changed, there is a firm feeling not entirely due to the advance in New York. Some dealers ask 20 cents for best creamery, and one claims to have sold at that figure, but we call 20 cents a fair quotation for extra Northern or Western, and 10 cents for large ash tubs. Boxes and prints are in only fair demand, at 20 cents for Northern and 20 cents for Western, with firsts at 18 to 19 cents, seconds, at 16 to 17 cents. Best grades of Eastern are 18 to 19 cents, and lower grades 16 to 17 cents. Dairy is dull excepting for best grades at 18 to 19 cents for Northern and 17 to 18 cents for Nebraska, three per cent. in Michigan and Kansas, and one per cent. in Iowa. In California the acreage is reported as being the same as last year. In Indiana, Minne-

corresponding week last year. This week's receipts are a little larger than the largest last year.

The exports of butter from Boston for the week were 151,795 pounds, against 2328 pounds the corresponding week last year. From New York the exports were 502 tubs, and from Montreal 15,361 packages.

The Quincy Market Cold Storage Company reports for the week as follows: Taken in, 23,300 tubs; put out, 718 tubs; stock, 63,592 tubs, against 54,500 tubs a year ago. The Eastern Company reports a stock of 11,600 tubs, 3000 tubs more than last week, and with these added, the total stock is 75,194 tubs, against 57,614 tubs at the same time last year.

## Massachusetts Crop Report.

We have received from J. W. Stockwell, secretary of the Massachusetts State Board of Agriculture, the following crop report for the month of May:

Owing to the excessive rains and the prevalence of cool east winds, the season is now much behind the normal, so far as the progress of vegetation is concerned. From a week to ten days late in western sections and from ten days to two weeks in eastern would seem a fair statement. The excessive moisture and consequent condition of the soil has made plowing and planting most difficult, and farm work is even more behind the seasonal normal than is vegetation. The fruit bloom appears to have occurred at about the usual time in western sections and a few days later in eastern.

The excess of moisture has been just what was needed for pastures and mowings, and has done much to repair the injury wrought by last year's drought. Although some mowings are still thin from that cause, they promise well in general, and a good crop of hay seems probable, with fairly favorable conditions in the future. There are a few complaints of fall seeding winter-killing, but in general it wintered well, and is now in excellent condition.

The fruit bloom was excellent for all kinds of fruit except apples. Winter apples made a light bloom and other apples only a fair one in most sections, probably owing to the year being generally an off year and the crop of last year having been unusually heavy. Strawberries appear to be setting well and other berries bloomed well. No damage from frost was reported from any section.

Insects are doing practically no damage as yet, many correspondents reporting that none had appeared at the time of making returns. The tent caterpillar is the one most generally reported, and they are not far enough advanced to do any noticeable amount of damage. Other insects reported as present are canker worms, cut worms, currant worms, potato bugs, onion maggots, wire worms, elm beetles, asparagus beetles, cattle flies and brown-tail moths.

The returns again indicate that, while spraying is practiced and is constantly increasing, the proportion done to that which could be profitably done is not large, nor is the increase as rapid as it should be. Some correspondents report that little spraying will be done, owing to its being an off year for apples. We can only repeat our former advice to all farmers to spray, even where fruit is a very minor part of their product, as no outlay they can make will be more immediately profitable to them.

There are more reports than usual of a scarcity of farm help, pointing to a somewhat smaller supply than usual in certain localities, but there is, generally speaking, a fair supply of fairly good help. The supply of strictly first-class help is, of course, not equal to the demand. Wages average about \$18 per month with board, and from \$30 to \$36 per month without board. Wages for day work range from \$1.25 to \$1.50 per day, in accordance with the locality and season. There are some few reports of higher wages, but not enough to affect the general average.

There will be no marked change in the acreage of farm crops, although the acreage of corn and tobacco will be slightly increased. A few reports indicate a decrease in the acreage of potatoes, but not enough were received to base a general statement on. The only strictly new enterprise reported was the establishment of two hop farms on Martha's Vineyard.

## Government Crop Report.

Preliminary reports of the spring wheat acreage indicate a reduction of about 1,200,000 acres, or 6.4 per cent. Of the twenty States reporting 10,000 acres or upward in spring wheat, eight report an increase aggregating about 34,000 acres, and twelve a decrease amounting to about 1,235,000.

The average condition of spring wheat on June 1 was 92, as compared with 87.3 at the corresponding date last year, and 91.4 at June 1, 1899. The mean of the June averages for the last ten years is 92.6, and for the last fifteen years 92.7.

The average condition of winter wheat during May 6.3 points, the condition on June 1 being 87.8, as against 94.1 on May 1. On June 1, 1900, the condition was 82.7, and on the corresponding date in 1899 it was 67.3. The mean of the June averages for the last ten years of winter wheat is 81.2, and for the last fifteen years 82.3.

The total reported acreage in oats is smaller than the acreage harvested last year by 3.8 per cent. The average condition of oats is 85.3, against 91.7 on June 1, 1900, 88.7 at the corresponding date in 1899, and a ten-year average of 90.

The acreage reported as under barley is 1.2 per cent. smaller than the area harvested last year. The average condition of barley is 91, against 86.2 on June 1, 1900, 91.4 at the corresponding date in 1899, and a ten-year average of 88.5.

The acreage under rye shows a reduction of 1.9 per cent. from that harvested last year. The average condition of rye is 93.9, as compared with 87.6 on June 1, 1900, 94.5 at the corresponding date in 1899, and a ten-year average of 89.4.

The acreage and condition of clover for the country, as a whole, cannot be satisfactorily determined, but the changes in the principal States have been reported. An increase in acreage of six per cent. is reported in Wisconsin, five per cent. in Michigan and Nebraska, three per cent. in New York and Kansas, and one per cent. in Iowa. In California the acreage is reported as being the same as last year. In Indiana, Minne-

## Scrofula

Few are entirely free from it.

It may develop so slowly as to cause little if any disturbance during the whole period of childhood.

It may then produce irregularity of the stomach and bowels, dyspepsia, catarrh, and marked tendency to consumption before manifesting itself in much cutaneous eruption or glandular swelling.

It is best to be sure that you are quite free from it, and for its complete eradication you can rely on

**Hood's Sarsaparilla**

The best of all medicines for all humors.



VIEWS OF OLD BOSTON, No. 3.

Old Masonic Temple, built 1831, afterward United States Court House, with view of Temple place, cut through to Washington street.

Taken in 1865; now site of R. H. Stearns & Co.

sota and South Dakota a decrease of four per cent. is reported, in Pennsylvania and Missouri three per cent., and in Illinois two per cent., as compared with the acreage of last year. As to condition Ohio reports twelve points above the ten-year average, Nebraska and Wisconsin ten points, New York and Michigan nine points. Clover States reporting below such averages are Missouri fourteen points, Pennsylvania eleven points, California and Illinois three points, and Minnesota one point. In Kansas the condition is reported as ninety-one, corresponding with the average condition in that State for the last ten years.

The Government crop report is figured by Statistician Brown of the New York Produce Exchange as indicating a crop of 683,571,000 bushels, comparing with 522,229,500 bushels last harvest and 675,148,707 bushels in 1898, which has heretofore been the high record. The report indicates a crop of 751,588,000 bushels of oats, comparing with 809,125,989 last harvest.

Reports are doing practically no damage as yet, many correspondents reporting that none had appeared at the time of making returns. The tent caterpillar is the one most generally reported, and they are not far enough advanced to do any noticeable amount of damage. Other insects reported as present are canker worms, cut worms, currant worms, potato bugs, onion maggots, wire worms, elm beetles, asparagus beetles, cattle flies and brown-tail moths.

The returns again indicate that, while spraying is practiced and is constantly increasing, the proportion done to that which could be profitably done is not large, nor is the increase as rapid as it should be. Some correspondents report that little spraying will be done, owing to its being an off year for apples. We can only repeat our former advice to all farmers to spray, even where fruit is a very minor part of their product, as no outlay they can make will be more immediately profitable to them.

The fruit bloom was excellent for all kinds of fruit except apples. Winter apples made a light bloom and other apples only a fair one in most sections, probably owing to the year being generally an off year and the crop of last year having been unusually heavy. Strawberries appear to be setting well and other berries bloomed well. No damage from frost was reported from any section.

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**Poultry.****Practical Poultry Points.**

It is very much the custom of writers on poultry topics to advise the setting of two or three hens at one time, and then giving all the little chicks to one hen, and either throwing those deprived of their clutch back into the henyard or giving them more eggs to hatch out. It is a very good plan when one has such luck as sometimes results. If they hatch but two or three eggs, each the hen will spend as much time in trying to rear them as she would if she had a dozen, and she might as well be given twelve to fifteen chickens to care for. A large hen might hover more than that.

There is a chance of carrying this too far, however. The hen that has hatched her chickens, and then loses them, is put back into the yard, does not usually begin laying again much earlier than she would if allowed to care for them. The chief object should be to select the one that is likely to prove the best mother and take the best care of her flock.

We have seen hens trying to perform motherly duties for thirty or more chickens that had been placed with her, including those of her own hatching, but we never thought it to be a success. As she cannot cover so many under her wings after they are a week or two old, some die of exposure and others of crowding in trying to keep warm under her, until she has no more than she would have had if she had been given but half as many. This loss of half the flock is a serious one, and more than counterbalances the doubtful gain of getting her back into the laying yard.

Before we ever knew anything about brooders, we knew a man who always took his chickens away from the hens that had hatched them, and placed another clutch of eggs under those that proved faithful to their work, and we have even known one hen to hatch three broods of chickens without being allowed to run with either of them. We do not recommend this plan, as the hen gets too thin in setting nine weeks, and any care will not bring her to laying again soon, and it would take much food to bring her to mating condition.

He kept his chickens in boxes, which were set into a warm building or room at night, covered with a cloth to retain the heat, and on pleasant days each lot was put out into a cage in the yard, where they seemed to be as well contented and thrifty as if they had not been orphans. When the box was brought to take them in they would rush and crowd to get into it as eagerly as ever we saw any run to the call of an old hen. He made a half dozen hens hatch over one hundred chickens, and his loss among them was much less than the usual loss when they run with the hens.

At that time chickens of two pounds weight sold readily at \$1 each, he found the growing of chickens more profitable than egg production, and the hen that had hatched out two or three broods in the spring was very likely not to lay again until after moulting, and then prove herself a good layer in winter, when the price of eggs was high.

One attempt to make a hen sit twelve weeks to hatch four broods proved a failure, as the hen died before the end of her last term.

We do not advocate this method because we think those who have incubators and a sufficient number of brooders can do much better, but we say that even in warm weather we would not give any hen more than fifteen to seventeen chickens to care for, and in cold weather we would prefer his plan of raising them by hand without a hen to giving a hen more than a dozen. We think we could raise a larger share of the chickens. As regards getting the hens back to laying again if the chickens are taken away, we will say that we have had one Plymouth Rock hen, caring for a good brood of chickens, begin laying in the coop when the chickens were ten days old, and several that began before they ceased to care for the chickens at night. How much better could they have done if the chickens had not been left with them?

We knew just what these hens were doing because each one was confined with her chickens in a coop with wire cage as yard, and no others could get there to lay an egg. Old hens will not begin laying again as soon as the young ones if the chickens are taken from them, though in this the individual character of the hen and perhaps her previous care has as much influence as breeding. Perhaps also it may depend largely upon whether the hen is given her clutch of eggs when she is broody for the first time, or whether she has been broken up once or twice after the brooding instinct began.

**The Summer Diet of Chickens.**

There is no perfect summer or winter food for chickens, but with a little ingenuity in mixing their diet we can supply them with what may be called perfect food. A good deal depends upon the nature of the chickens and fowls in regard to the food, and also upon the season of the year. While a fair supply of corn may do for winter feeding, it could hardly be recommended for summer feeding. It is altogether too fattening and heating. On the other hand a little rice is good for the fowls in summer, and totally unsuitable for winter. There is practically no heating elements in rice, and this is what we need for summer feeding, food that will nourish without heating.

Now when we feed summer or winter for fowls we must consider food from a different standpoint. We need to supply the fowls with egg-producing material, and for the time we must consider the relative importance of heating and non-heating foods much less than formerly. Usually, however, foods that make flesh and fat do not contribute to the egg-producing abilities of the fowls. The foods adapted to the latter are usually in a class by themselves. In addition to them we need consider only such other foods necessary to repair the daily waste and loss of heat and fat. In cold weather the loss of the latter is much greater than in summer, and consequently the proportion of these foods must be far larger.

Both fowls and chickens indicate what they most need if turned loose. They will seek of grains, seeds, worms, slugs and all sorts of natural foods. The more of this natural food they can secure the better will be for them. Chickens that can forage for living in summer will always be healthy and robust. But we must not forget that very often they fail to secure enough to keep them in good growing condition. After they have foraged for the day they need additional food. But in the summer this food should not be corn, which so many think necessary. A little, and a very little at that, will suffice. The evening meal would be much better for the poultry if composed of a great variety of seeds, grains, rice, scraps from the table, ground fresh bones, grit, oats, barley and so on. Make such an evening meal as varied in its com-

position as possible, adding as few fat-producing foods as the case will warrant. Feed the poultry freely with this mixture every night, giving them all they will eat up clean. In the morning turn them loose to forage again, feeding them artificial food only when necessary. Of course, where there are many colonies kept, the foraging grounds will be more limited, and the birds will have to receive more artificial foods.

ANNIE C. WEBSTER.  
Pennsylvania.

**Poultry and Game.**

Rather a quiet trade in poultry. Fresh-killed Northern spring chickens 35 cents for choice, 25 to 30 cents for fair to good. Fowls, extra, 13 to 14 cents, and common to good 10 to 11 cents. Spring ducks 15 to 16 cents. Pigeons from \$1.25 a dozen for choice to 75 cents or \$1 for fair to good. Squabs \$1.50 to \$2.25. Western fowl poultry in good supply. Spring chickens at 20 to 25 cents, fowl 9 to 10 cents, old roosters 6 to 7 cents and turkeys 7 to 9 cents. Frozen poultry dull. Broilers 16 to 17 cents for choice, 14 to 15 cents for common. Chickens 11 to 12 cents for choice, 9 to 10 cents for fair to good. Fowl \$1 to 10 cents, and turkeys 10 to 11 cents. Live poultry in moderate supply, spring chickens at 20 to 23 cents, fowl 10 cents and old roosters 6 to 7 cents. Game steady at last week's rates.

**Horticultural.****The Right Form of Fruit Trees.**

Not a little discussion has been caused in the past as to the relative form in which fruit trees should be pruned to obtain the highest results. Unquestionably the natural shape which the trees assume indicates that there is a difference intended by nature.

Thus the wide-spreading branches of the apple tree shows that it was never intended that it should be pruned to an upright form, as the peach or even some varieties of pears. Moreover, the same rule cannot be applied to all varieties of any class of trees. There are pear trees which by their natural shape seem to show that nature intended that they should grow upright, and others which spread out more. It may be accepted as a general rule, however, that the lateral branches of a pear tree should never be allowed to develop at the expense of the head or centre of the tree. A wide-spreading pear tree means a poor head and a straggling growth.

After all, we must take our cue from nature. When a variety shows a tendency to spread or grow upright, it is well to defer a little to the natural inclination of the growth, and merely use the pruning knife to control and direct the growth. The trees of every variety should be trained and pruned in the same general way. Once pruned as to the best shape, this should be quite rigidly adhered to. It not only looks better, but it makes the orchard more systematic. If it is the best way, it should answer for all the trees of that variety.

In apple trees there is the same variation in form and shape. The Northern Spy apple tree naturally assumes the very upright growth, and it would be a mistake to attempt to cut off the top to make it spread in a low growth such as the Rhode Island Greening always presents.

The latter spreads so wide and low that it is necessary to trim off the low branches to keep them from touching the ground. Such a tree needs constant pruning, and the limbs should never be allowed to come within five feet of the ground. Otherwise light and air cannot get under the branches, and dampness always collects there. Keep the wodeshoring, low-growing form, but do not let nature go too far. The trees need guiding and training, and they will produce better and more apples. Most other apple trees should be trained to assume the inverted umbrella shape. This is probably the nearest to nature's intention of any.

S. W. CHAMBERS.

**Orchard and Garden.**

A writer in Farmers' Guide tells that some years ago he sent an order in February for root-grafted fruit trees of such variety and such quantity as he desired. In April the little grafts came by mail. They were set in nursery rows three feet apart in the row, and well cultivated. In eighteen months they were as large as the ordinary three-year-old tree. Then they were set in the orchard and kept under cultivation. In six years from the time he received them they were as large as the average twelve-year-old trees, and were bearing apples, and all there. This is a strong argument for what we have many times said, that nothing is gained by buying large trees. The large ones too often have the roots mangled in taking up, dried up by the sun in transportation, and then are crowded into a hole too small for them, and sometimes buried in manure strong enough to destroy any life there is left, and it is little.

W. E. EDWARDS.

**Young Mothers.**

Stand in special need of help while the baby is being nursed. Dr. Pierce's Favorite Prescription not only strengthens the woman for motherhood and makes the birth hour practically painless, but it increases the nutritive secretions upon which the child is fed. It soothes the nerves, encourages the appetite and rapidly restores the mother to robust health. There is no alcohol in "Favorite Prescription," neither opium, cocaine, nor any other narcotic.

"I wish to let you know the great benefit I wife derived through taking your 'Favorite Prescription,' writes Mrs. R. C. Hardin, of Brandon, Manitoba, Box 236. "I was a mother at child birth. We had heard so much of the diet that I decided to try it. (I may say my wife is thirty-three and was her first child.) She commenced to take 'Favorite Prescription' five months before the child was born. We have a fine, healthy girl, and I believe that this was mainly owing to the 'Favorite Prescription' taken faithfully according to directions. We shall certainly recommend it wherever we can."

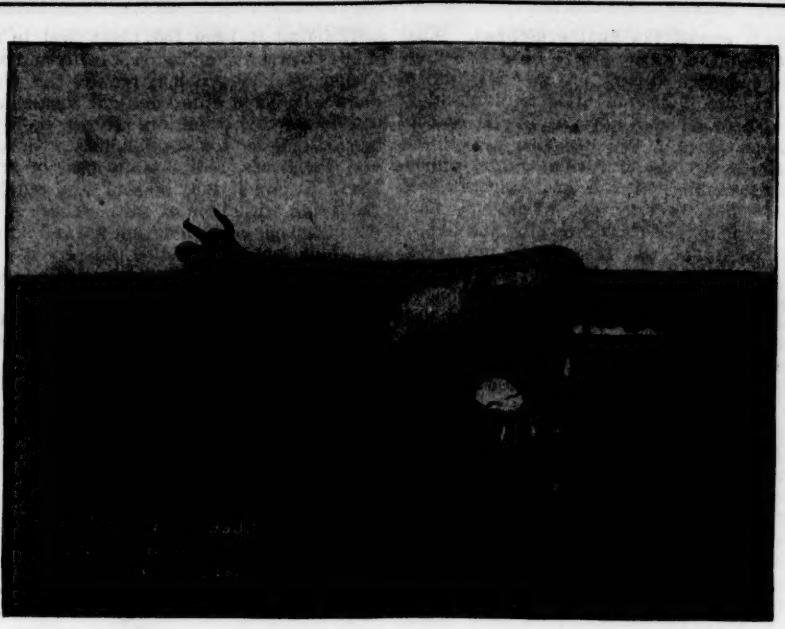
Dr. Pierce's Pleasant Pellets put the bowels in a healthy condition.

Young Mothers

Vegetables in Boston Market.

There is about the usual supply of both native and Southern vegetables in the market, and prices are not as firm as last week only on the very best. Old beets are lower at 25 to 35 cents a box, new bunches at \$1 a dozen for hothouse and \$3 to \$5 a hundred for Norfolk. Beet greens 25 to 35 cents a bushel. Carrots 75 cents a box and bunches 75 to 85 cents a dozen, with nice flat turnips at same rate and yellow at \$1.50 a barrel. Egyptian onions \$1.50 to \$2 a sack and Bermuda \$1.75 to \$1.85 a crate. Leek 75 cents to \$1 a dozen and radishes 50 cents a box. Hothouse cucumbers \$4 to \$4.50 a hundred and Southern \$2.25 to \$2.50 a basket, \$1.25 to \$1.50 a crate. Florida peppers \$1.50 to \$2.50 a case as to condition. Egg plants \$2.50 to \$3.50 a box. Tomatoes 10 to 15 cents a pound for hothouse, and Southern \$1.50 to \$2 per carier for fair to good, and a few choice \$2.25. Rhubarb one cent a pound, and celery from \$1 to \$1.75 a dozen. Asparagus in fair supply at \$3.75 to \$4 a box or \$1 a dozen. New Marrow squash \$3 a barrel crate and summer at 50 cents to \$1 a crate.

Cabbages not so plenty and in fair demand at 50 cents to \$1.25 a barrel, or 75 cents to \$1.50 in barrel crates. Cauliflower \$3 to \$3.50 a case, lettuce \$1 a long box. Spinach 25 to 35 cents a bushel, and parley 50 to 75 cents. String beans in light supply, and best selling at \$3 a basket for Norfolk, others \$2.50 for wax and \$2 for green. Peas in moderate supply at \$1.50 to \$1.75 a barrel. Mushrooms from 50 to 75 cents a pound. Old potatoes coming more freely and



TORMENTOR'S LASS 59832.

fresh-opened Stamford and \$1.25 for Providence River.

**Shortage in Beef Production.**

"It has been popularly supposed that the Great American Desert is growing less in extent," said Secretary of Agriculture Wilson the other day upon his return from the western Presidential trip, "but it is being reclaimed and made more habitable; but I say that it is growing larger every year. This may be thought to be a rather startling statement, but what I mean is that the productive capacity of the American Desert is becoming less and less. It is being grazed to death and its irrigable water supply is diminishing year by year. The overgrazing is killing out the native grasses—they are being eaten out by the roots, while the grazing which is being done in the forests, together with the cutting and burning of the timber, is denuding the forested hills and the mountain slopes. This latter result has the effect of allowing the snow to melt off suddenly, the water coming down with a rush and causing great floods, instead of furnishing a gradual and steady water supply during the irrigating season.

"This is unfortunate for the West, and it also has its various effects on the East. The present high price of beef is no doubt due, in a measure, to the prosperous condition of the country, because, of course, every family can afford to eat more meat, but it is also due to the range conditions I have named. The West cannot produce as much meat as it once could, and it will produce less and less every year."

"What is the outlook, then, for the country to secure sufficient beef and mutton, Mr. Secretary?"

"This condition in the far West means that the farmer must supply the deficit, Wyoming and Nevada do not, I should say, produce over half of the meat they did ten years ago, and the same thing can be said with regard to the arid region in general. It is getting worse and worse, and consequently meat for the country and for our export trade will have to come from the farmers of the Mississippi Valley, where they can grow corn and oats for feeding."

"At present the 'good times,' as I have said, afford the ability of families to buy meat, and this affects its price; but this latter is also affected by the ability of the region west of the Missouri river to produce, and this ability, or rather disability, is becoming more and more prominent, while there seems no way of stopping it, so that the Mississippi Valley farmer is the man who must produce the meat."

"Our export trade then will be affected by the overgrazing of the Western lands?"

"Yes, but right here is another point in connection with the above. People may not like to have it said to them, but perhaps it is just as well for somebody to speak out plainly. It is high time that the people of this country who are selling stock feed and shipping it abroad should keep it at home and feed it. It is the course of wisdom for the market just now. But we are selling abroad enormous amounts of oats and corn and mill feed, whereas the present prices for meats justify the feeding of this at home. This would keep the fertility on the farm. Keep the products of the ground on the farm and ship the meat. That is the way to do."

"The Department of Agriculture at this time," continued the secretary, "is making strenuous efforts—that is a good word for it—by sending agents to countries around the China seas and to the Caribbean sea to enlarge the markets for American products, dairy products especially. Why, in the matter of dairy products one class of Americans furnish the very weapons to enable foreigners to defeat other Americans. Our men get the foreign markets completely occupied by Danish butters and cheese, yet, as I have often said, the Danes cannot export a pound of butter or a pound of cheese if the Mississippi Valley farmer did not sell them."

GUY E. MITCHELL.

**The Hay Trade.**

Receipts of hay have not increased very much in the Eastern markets, but the feeling still is in favor of buyers who are taking only light stocks and talking about the heavy crops that will soon be ready. Like some other expected crops it may not materialize, or a dry fall may create a demand for it next winter, and we advise our readers not to be too anxious to clean out the mows they have.

Boston received last week only 235 cars of hay, 19 of which were for export, and 20 cars of straw. This made actual delivery here less than last week, while for corresponding week last year there were 366 cars, of which 63 were for export and 21 cars of straw. The prices in demand at \$19 to \$20 for long hay, \$13 to \$14 for tangled rye and \$9 to \$9.50 for oats.

In New York the receipts were more liberal, being 722 tons of hay, or 158 tons more than previous week, while for the corresponding week last year they were 988 tons. Exports were 1998 bales. The trade was dull and many lots sold at buyers' offer. Jersey City was well supplied in all best grades, which are in fair demand, and Brooklyn has good supply, with prices apparently declining.

The Hay Trade at Journal gives highest prices at markets at \$19 at Providence and Jersey City, \$18.50 at Boston, New York and Brooklyn, \$17.50 at New Orleans, \$16.75 at Norfolk, \$16.50 at Philadelphia, Baltimore and Richmond, \$16 at Buffalo and Nashville, \$15.50 at Pittsburgh, \$15 at Duluth, \$14 at St. Louis, \$13.75 at Cincinnati, \$13 at Minneapolis and \$11.50 at Kansas City.

Montreal Trade Bulletin says the market is difficult to quote, as some dealers sold No. 18 at \$16 to \$17, No. 3 to \$16 to \$16, mixed \$12 to \$15 and clover \$13 to \$14.

Straw was in demand at \$19 to \$20 for long rye, \$13 to \$14 for tangled rye and \$9 to \$9.50 for oats.

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**MASSACHUSETTS PLOUGHMAN**  
NEW ENGLAND JOURNAL OF AGRICULTURE

BOSTON, MASS., JUNE 22, 1901.

Framingham is getting ready for the militia.

The leemen are evidently keeping cool even with a strike in prospect.

The Boston Chamber of Commerce has its business eye on the Canadian trade.

The Fireman's Memorial day is an event that belongs to the whole nation, even if it is not made a national holiday.

It is a noticeable fact along Commonwealth avenue that the finer a house owns the less time one spends in a house.

President McKinley has issued a third-term statement from which it will be difficult for the Commonweal to deduce a convincing editorial.

Modern religious warfare is conducted by a fire of words, and last Sunday saw the opening of what promises to be a veritable modern carnage.

Careful study of the behavior of the Y. M. C. A. during the latter part of the week reveals no deleterious effect of the reception in the Museum.

That is a very ingenious decoration in the Public Garden, but it has not tempted General Washington to withdraw his gaze from the Commonwealth avenue window.

The Atwood exhibition at the Museum of Fine Arts has been continued, and the fact is expected to make the Museum a decided centre of interest to many Harvard graduates during commencement week.

Uncle Sam is certainly much in evidence in England these days. The blue ribbon and the Oaks have placed America supreme on land, and the American designed yacht Nevada has won the Glasgow exhibition, a pleasant foretaste of what we hope is yet to be accomplished by the Independence.

The attempt made this past week to legislatively cut a bit off the territory of the Arnold Arboretum has proved most convincingly that the people of Boston realize that as it stands the Arboretum is practically their own property, and that they are determined to look out for it.

The movement for the abolition of advertising matter in the vicinity of the parks is one that ought to be pushed more vigorously. That the abolition of such advertising privileges will come about in time is inevitable; meanwhile we of the present generation must take our pills and our parks together, whether or no we like the combination.

Emblems and mottoes are useful, and in their way important things, but they are not truly beautiful when worked out in flowers and displayed in a garden instead of in their more fitting location on a practical waistcoat. A word to the wise is supposed to be sufficient, but those who plan such things are not wise, and there are signs in the air of another coming festival of bad taste just where the public should be taught—even if it hasn't been—to recognize and disapprove of it.

Monday, June 17, is the anniversary of the battle of Bunker Hill, and we have sometimes felt that its celebration should not have been limited to the city of Charlestown, or, as it is now called, the Bunker Hill district of Boston, but, like Patriots' Day, it should have been celebrated throughout the State. Those who fought there were not from one town, one county, or even all from the one State. That they were not victors in repelling the attack of the British troops was not to their discredit. The scant supply of ammunition was a sufficient excuse for their retreat, and the victory won by the British troops was of little value to them, and no discouragement to the volunteers who met them.

The announcement by President McKinley of his determination not to be a candidate for a third term in office will not be a surprise to many people. The feeling against a third term is so strong that it would be a daring act to attempt to break over the rule, and of itself might defeat even the most popular man who ever held the position. We have as a precedent the president of Mexico, who has been re-elected for some seven terms, if we remember rightly, and proved as capable or more capable at the last than the first term as a ruler. There may an emergency arise when the people of this country will think it fit to re-elect some man to the third term, upon the same principle that President Lincoln once expressed in regard to a proposed change of generals that "it is a bad time to swap horses when crossing a stream," but we are not in a stream now, and we hope that it will be unsafe to change our leaders, nor do we lack for those whom we think are competent to assume the leadership.

"An Old Soldier," in Little Chronicle, says: Think of the story of Louisiana—ninety-one years under foreign rule before we took it! Six times that province changed hands, you know. It was colonized by the French in 1699. From the French king it passed to Crozat in 1712, from Crozat to the Western Company in 1717, from this company to France in 1731, from Louis XV. to Spain in 1762, from Spain to France in 1801, and from France to the United States in 1803. And what a time France had taking possession that last time! The Spaniards there in Louisiana didn't like being turned over to the French, and they made it so uncomfortable for the new French prefect—Laussat was the name, wasn't it?—that two years went by, and Napoleon had actually sold the province to our Government for \$60,000,000 before the French flag had ever been formally hoisted there. Yes, sir, I remember dates pretty well, and it was Nov. 30, 1803, when the flag of Spain in New Orleans came down from the staff, and the colors of the young French Republic ran up. And it was less than a month later in the same place that the banner of France slid meekly down, and half way from the bottom met the Stars and Stripes proudly rising to the top.

The opening of the Boston Elevated Railway to public travel last Monday proved more attractive as a novelty than was the first travel on an electric car, or even the first trip of those cars through the subway. It is now reported that about 250,000 people made the trip, or a part of it, the first day, and those who did so for the sake of the experience or the fun, possibly may feel later on, if not now, that they obtained full value for their money, but those who

tried to use it for going to or from work or business are not as well pleased. We heard one man declare that he spent an hour and forty minutes on it, going from Dudley street to the North Union Station, and might have been longer if he had not left it before it reached there, and walked a part of the way. He could have made the trip in less than twenty-five minutes on the surface cars. Of course it was not much more satisfactory to the managers of the road than to the passengers, unless it might be in a financial sense, as 250,000 nickels may have helped to console a part of their disappointment, but we have no doubt that better results will be had when there have been further trials, and when the difficulties which may be expected but can scarcely be guarded against on a first trial shall have been overcome.

**Rheumatism in Animals.**

Almost every one is familiar with rheumatism, either from personal experience or from having witnessed its effects upon others. Very few people pass middle life without suffering from it, yet many are not aware that animals are nearly as subject to it as human beings, or that it is often as severe and painful to children as to the older people.

We do not know one of our domestic animals that we have not seen suffering from it, and so often that when any one says his horse or cow, dog or cat, has suddenly gone lame, although he does not know that it has been hurt at all, we should guess rheumatism first, and if failing to find the indications of that disease would then look for other cause.

If we found, however, that it had a damp or wet and cold bed, or that it had been overheated and then allowed to cool off suddenly, or if we found cold draughts of air upon its sleeping-place, or a wet and cold place for it to stand in, we should need at least a broken bone to assure us that the trouble did not arise from a rheumatic affection, and even then might think it was adding to the pain and soreness.

In horses it most commonly affects the joints of the shoulder, stifle and ankles, and if sudden lameness appears there, that goes away almost as suddenly as it comes, or that seems to change from one point to another, it is usually safe to say that rheumatism is the cause. While hips and shoulders and the gambrel joints are often affected in the other animals, the cow, sheep and swine are frequently troubled in the back or across the loins, so as to affect the whole system, or to cause an apparent lameness, or in bad cases a partial paralysis of the hind quarters, showing difficulty in getting up after having been lying down.

With the dog it usually seems to be in the limbs alone, and may be suspected when the animal has a habit or running on three legs and carrying one, and perhaps changing the limbs used at short intervals. This can usually be easily detected by a greater heat near the affected point or in the muscles that are connected with it, and a tenderness that causes flinching when it is pressed upon by their hand. We have seen animals actually crouch down and groan with pain when a pinch was given with thumb and finger at each side of the backbone in region of the kidneys, or a sharp grip given to a lame joint.

The first remedy is to remove the cause. Be sure that they have warm and dry beds and are sheltered from cold winds. Give warm and nourishing foods and drinks. Warm mashes for horse and cow and warm gruel or thin slop for the minor animals are suitable. Mild purgatives of epsom salts for the cattle and sheep, or aloes for the dog and a diuretic of saltpeter for the cow, and sweet spirits of nitre or even a half-pint of gin or whiskey for the horse, may be useful to increase the secretions and induce perspiration, taking care not to expose them to cold afterward. Bicarbonate of soda in the drinking water in ounce doses to a pail of water would also assist in reducing fever.

There are many patented liniments that might be used to reduce swelling and inflammation when the sore or tender place is found, but we have not found one more to our liking than one made two parts of sweet oil and one part spirits of turpentine, with one-half part to one part liquid ammonia, the latter as sold varying much in strength. Rub in well and then rub dry, or wrap with dry cloth. The one who does the rubbing should soon know if the liniment is too strong by the feeling of his hands, which should feel the effects as quickly as the skin of the animal. If too strong, add more oil or a little strong soapsuds.

**Present Peril of Rabies.**

In the paper on rabies which Dr. D. E. Salmon of the Bureau of Animal Industry contributes to the Agricultural Department Year Book, recently published, it is demonstrated by official reports that this disease, instead of being rare, as it is popularly supposed to be, exists continuously in the United States, and, furthermore, is on the increase.

The death in Washington of a man suffering from hydrophobia led to the investigation made by Dr. Salmon. He found that between 1893 and 1900 ninety-one animals and seven human beings died of hydrophobia in Washington. Other reports showed that the disease was generally prevalent throughout the country. For instance, Dr. W. J. Coates, chief surgeon of the American Veterinary College, New York, reported an average of seven cases a year on the record books of the college. Dr. H. D. Gill of New York reported an average of eight cases a year for the past three years. Dr. Robert J. Wilson, assistant bacteriologist of the New York City Health Department, reported that in the past three years he had confirmed the diagnosis of rabies in forty cases of domestic animals and three of human beings.

Last year there was a very serious outbreak of hydrophobia in Rochester. Dr. George W. Coler, the health officer of that city, reported that between June and December, 1900, he had seen from twenty-eight to fifty cases of hydrophobia in dogs. Dr. Salmon says that in many cases of rabies the nature of the disease is not recognized. This is especially true of cases of the dumb or mute form.

There are two forms of rabies, the furious and the dumb. In the former the animal is irritable and aggressive and bites nearly every object that comes in its way; in the latter the muscles of the jaw are paralyzed almost from the first appearance of symptoms, and, being unable to bite, the animal remains more quiet and tranquil. In both forms the disease is the same and the saliva is equally deadly. The dogs with dumb rabies are less dangerous, solely because their jaw muscles are paralyzed, they are unable to bite.

The difference in the two forms of the disease is due to the greater rapidity of the development of symptoms in dumb rabies. Every case of furious rabies eventually turns to dumb rabies, for paralysis of the

jaw is one of the final symptoms. What is called the "drop-jaw" form is where this symptom occurs on the first day of the disease, instead of after an interval of two, three, or more days, as in the case of furious rabies.

The symptoms of furious rabies appear very gradually. The animal appears restless, and is very apt to become more affectionate than usual, fawning and licking the hands or the face of its master, as though seeking sympathy and aid. This is a particularly dangerous demonstration, for if there is the least abrasion of the skin there is almost a certainty of inoculation. There are many instances in which hydrophobia has been imparted to human beings in this way.

Another very dangerous symptom is when the dog apparently has a bone in its throat and is unable to swallow. This simply means that paralysis has set in. The saliva at this period is very virulent, and many persons have caught the disease by putting their hands in a dog's mouth to relieve it of the supposed bone. The fierce biting and snapping at everything which eventually develops in furious rabies is merely the result of delirium.

Dr. Salmon refutes the popular error that a mad dog has a dread of water. Another popular fallacy is that rabies is a disease peculiar to the summer months. Statistics covering a long period of years show that it is practically as prevalent in December, January and February, as in July, August and September.

One of the remarkable features of hydrophobia is the varying length of time it takes to develop after inoculation. This period varies all the way from seven days to, in one recorded instance, fourteen months.

The majority of cases develop in from three to seven weeks. The long delay is explained by Dr. Salmon on the theory that the virus must reach the brain and spinal cord, and the germs multiply there before the disease develops, and that the rabies virus does not penetrate through the body with the facility of many other forms of contagion.

Dr. Salmon is in favor of destroying all vagrant, worthless and ownerless dogs, and of rigidly enforcing a law requiring all other dogs to be muzzled or led by cord or chain when they are taken out. In this he is convinced that within a year or so hydrophobia would be virtually stamped out, for it is in dogs that the disease almost exclusively flourishes. The statistics of American and foreign cities show that where dog-muzzling has been enforced hydrophobia has virtually disappeared.

**Preservation of Milk Quality.**

Many dairymen who patronize cheese factories or creameries are frequently puzzled and annoyed because fault is found with the quality of milk they deliver.

The maker will tell them that their milk is "off" in quality, either slightly sour or tainted, and that they must deliver it in better shape the next day or he cannot receive it.

For the benefit of those who are often puzzled as to where the fault lies, permit me to advance a few suggestions.

While making cheese I once had a patron whose milk was seldom perfectly sweet. I expostulated and lectured, and he seemed to really try to improve matters, but without success.

He claimed to aerate and cool his milk down to a low temperature every night, yet in the morning it would be on the verge of acidity.

In passing his house one afternoon just as I had finished my day's work, I saw his wife washing the milk cans, which had stood in the hot sun since early morning!

The next day I told my delinquent patron that I had discovered the source of his trouble, and that if he would still continue to aerate and cool his milk with the same assiduity, and in addition see that his milk cans were thoroughly washed and scalded with boiling water before eight o'clock every morning, I would be able to help him to guarantee the quality of his milk.

He did so, and we had no trouble thereafter.

Even with the best facilities coupled with painstaking efforts it is sometimes very difficult to preserve milk quality for twelve or eighteen hours in hot weather.

Many fly to ice and depend upon it solely, but this does not necessarily imply dairyfaring.

If one is possessed of a supply of ice it is a valuable adjunct in these matters, but it should be used circumspectly.

For an instance: Do not cool hot milk down suddenly with it, before the milk has been thoroughly aerated.

With pure air surroundings and except in the most sultry and "muggy" weather, I have no fears of preserving milk quality without the help of ice.

I would simply aerate it, and thus cool it at the same time.

In exceptional instances of very hot nights, a deep pailful of cold well or ice water could be submerged in the can of milk after aeration.

Usually, the flush of feed and flush of milk flow are coincident with our hottest summer weather, and so it behoves dairymen to put forth every effort in their power to reap the full benefit of this laetare harvest by preserving their milk's quality.

GEORGE E. NEWELL.

**Improving the Poor Fields.**

Every season attempts should be made to improve some portions of the farm so that the soil will show the highest standard of productivity. There are crops which must be raised on every farm which leave the soil much poorer in fertility when they are harvested. Systems of rotation may tend to counteract this evil, and keep the general average of the fertility good, but in spite of this there will be a gradual decline unless special efforts are directed toward the improvement of the soil. This can best be done by selecting certain fields or field each year and making a point to raise the standard of the fertility of that section. By thus changing off one goes over the whole farm in the course of a few years and makes the soil all of a high standard.

Now a rotation of crops in which clover comes for its share may not necessarily keep the soil in a high state of efficiency. This can be seen in soils that have become impetus to the pork-raising industry, as the separator milk is found most valuable for feeding to pigs and fattening swine. We do not expect the present high prices to continue another season, but we think there will be as much profit in raising pigs or in fattening pork for years to come as there has been for the past year.

To do this the land needs regular treatment once in a few years, much as a physician would treat a patient. He examines a sick man's pulse, looks at his tongue, studies his complexion and tries to find some organ out of order. Then he applies the remedy accordingly. Once every few years we can examine a section of the farm in the same way. What is the matter with the

soil? Had it been fed plant food in the shape of green manure too steadily and continuously? Then it may require the phosphates, lime and other mineral elements to counteract this condition. It may be it has been stimulated too continuously with mineral fertilizers, and it is in need of green food. Again it may be sour, and requires rectifying with lime or salt. There are two and one conditions that the soil may be in which can be remedied only by a careful study. The farmer with a fair intelligence of farming can do this. It does not require expert knowledge, nor technical skill, but simple, ordinary common sense, and then the disposition to remedy the trouble.

JAMES S. WILSON.

Connecticut.

**Live Stock Notes.**

We have here this called attention to the danger of feeding cottonseed meal to hogs.

The Mississippi Experiment Station has been testing it. They divided eight Berkshire hogs into four lots of two each.

Lot one received cooked cottonseed meal and corn meal. Lot two was given raw cottonseed meal and corn meal.

Lot three received cooked cottonseed meal and whole corn.

Lot four made their greatest gain in the second week of trial, the gain during the whole time was not satisfactory or profitable.

In Lot 2 having raw cottonseed meal one died in four weeks and the other at the end of the eighth week. The hogs having the cooked cottonseed meal did not die, but some were very sick and refused to eat, only returning to eat after being in an oat and clover patch for several days. Most of them began to lose flesh after the fourth week, and none made any gain after the sixth or eighth week.

They also tried twenty-three pigs four months old on a ration of cooked cottonseed, cornmeal shorts and skimmilk.

For the first two weeks they made an average gain of one pound each per day, but after that time the gain was small, although the pigs continued to eat with apparent good relish.

They began to die when the experiment had lasted four weeks, and at the end of forty days four were dead and several others sick.

They recovered after about a week in a clover lot.

Some of them were kept and put up to fatten, but they proved poor feeders and never got in good condition.

The use of a thoroughbred ram of one of the mutton breeds upon a flock of the common Merino or grade ewes benefits the lambs in more ways than one.

If he is a good one he will so imprint his character upon the lambs that they will be uniform in size and shape, almost without regard to any difference in ewes.

This is of importance when one has a carload to sell. Buyers will pay from 10 to 20 cents a hundred pounds more for a uniform lot, "not a poor one in it, sir," than they will for a mixed lot.

But the half-bred or three-quarters-bred Shropshire, Oxford or Hampshire is worth 20 to 35 cents a hundred more than the smaller lambs in the same market.

One such ram may easily get a hundred lambs, and as they should weigh when well fattened an average of one hundred pounds each, he has added 30 cents to the selling value of each one, or \$50 to

## The Markets.

## BOSTON LIVE STOCK MARKETS.

ARMEDS OF LIVE STOCK AT WATERTOWN AND BRIGHTON.  
For the week ending June 19, 1901.

Shotes  
and  
Cattle Sheep Suckers Fat Hogs Veals

The stock, 3721 7885 145 27,020 2576  
Last week, 4113 6388 140 30,714 2430

Per hundred pounds on total weight of  
hides, tallow and meat, extra, \$6.00@6.50; first  
quality, \$5.50@5.75; second quality, \$5.00@5.75;  
fat hogs, \$4.00@4.75; a few choice single pairs,  
\$7.00@8.00; some of the poorest, hogs, etc., \$3.00@  
3.50; Western steers, 4@5.50.

YOUNG CALVES—Fair quality, \$2.00  
each; extra, \$4.00@5.00; fancy milch cows, \$3.00@5.00;  
fat hogs, \$12.00@15.00.

—This young cattle for farmers: Yearlings,  
16@18; two year olds, \$14@16; three year  
olds, 18@20.

—Per pound, live weight, \$2.00@2.50; extra,  
sheep and lambs, per head, in lots, \$2.50@  
3.00; lambs, 4@5.50.

HOGS—Per pound, 6@6.50; live weight,  
sheep wholesale, —; retail, \$2.25@3.50; country  
dressed hogs, 7@7.50.

YOUNG CALVES—\$4.00@5.00 p. lb.

HOGS—Brighton, 6@7.50 p. lb.; country lots, 5@5.50.

COW SKINS—\$8.00@12.00; dairy skins, 40@60.

—Bacon—Brighton, 4@5.00 p. lb.; country lots,  
20@25.

STRAPS—65@66.

Cattle Sheep. Cattle Sheep.

Maine. At Brighton. Canada. At Watertown.

G. A. Sargeant 10 J. A. Hathaway 28  
F. W. Wormwell 5 Lumness & Co. 300

Cobb & Tracy 12 At N E D M & Wool 25

M. H. Lowe 14 D. Monroe 40

J. H. Philbrook 35 Brown, Snell & Co. 36

L. Libby Bros. 35 C. R. Hall 4

Harris & Felt 36 C. H. Hall 4

W. A. Gleason 14 J. E. Tracy 4

At Brighton. G. N. Smith 19

Market prices have not materially changed;  
it appears to be the top price for full lots; very

select small lots 1@1 higher. C. R. Hall, 50

calves, 125 lbs. at 5@6. F. W. Wormwell, 10

calves, 110 lbs. at 5@6. C. B. Hanson, 4

cows, at \$4.00; 4@4-year-olds at \$2.80 each;

extra cows, \$5.50 each. Thompson & Hanson, 4

cows, at \$4.00; 4@4-year-olds at \$2.80 each;

extra cows, \$5.50 each. Cobb & Tracy, 4 choice cows,

10 cows, \$20@25. Cobb & Tracy, 4 choice cows,

10 cows, \$20@25. C. R. Hall, 4 oxen, of 1350 lbs. at 3@4.

CORN—The market is steady with trade ruling

State grades, 65@70.

State 2-grade, 60@65.

Western grades, 65@70.

Wool—The market is steady with trade ruling

State grades, 65@70.

State 2-grade, 60@65.

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State 2-grade, 60@65.

Western grades, 65@70.

Wool—The market is steady with trade ruling

State grades, 65@70.

State 2-grade, 60@6

ARMSTRONG & MCKELVY	Pittsburgh.
BEYER-CAVANAGH	Pittsburgh.
DAVIS-CAVANAGH	Pittsburgh.
FAIRBROOK	Pittsburgh.
ANCHOR	Cincinnati.
ROBERTSON	Cincinnati.
ATLANTIC	
BRADLEY	
BROOKLYN	
JEWELL	New York.
ULSTER	
UNION	
SOUTHERN	Chicago.
SHIFFMAN	Chicago.
COLLIER	
MISSOURI	St. Louis.
RED SEAL	
SOUTHERN	
JOHN T. LEWIS & BROS. CO.	Philadelphia.
MORLEY	Cleveland.
SALEM	Salem, Mass.
CORNELL	Buffalo.
KENTUCKY	Louisville.

THE old-fashioned paint that never chalked, cracked nor peeled was made from Pure "old Dutch process" White Lead mixed with Pure Linseed Oil, and thoroughly brushed out, using plenty of elbow grease to rub the paint in, and allowing ample time for it to dry between coats.

The brands named in the margin are genuine. Any shade or color required may be easily obtained by using the National Lead Company's Pure White Lead Tinting Colors.

Pamphlet giving full information and showing samples of shades, etc., etc., furnished free upon application.

National Lead Co., 100 William Street, New York.

## Our Homes.

### The Workbox.

#### FANCY-WORK IDEAS.

The most beautiful drawn work is now done in colored silks, thus gaining the jewel-work effect so much sought after in embroidery a few years ago. The experienced worker will readily understand that patterns having the web effect will be best suited for this sort of work. Do your buttonholing with fine linen or cotton thread as usual. For the knotting threads take pearl-white spool silk. When weaving the webs use pale green, pink and lavender filo floss. Sometimes a jewel is worked in a single color, sometimes three shades are mingled in one web, thus giving an iridescent effect. When working it is well to use short threads, as silk has such a tendency to wear out quickly.

This work is very beautiful, but the delicate shades of silk must fade quickly, and for that reason many a needlewoman will still prefer to use all white.

Sofa pillow cases in varied patterns still flourish. Most of the designs are of the large, conventional order, and the embroiderer's art was almost dispensed with, for the lines were covered with narrow braids sewed on, having plain or picot edges, the spaces enclosed by the pattern filled in with cross stitch or some variation of it. The material in general was art satin in cream, tan, cool-looking green or artistic shades of pink or blue. Some were red, too, and on these the design was invariably done in black. Creams and tans accept all colors with good effect.

EVA M. NILES.

### Roach and Bedbug Destroyers.

Herr Berneugue deserves the thanks of all housekeepers, and, in fact, of suffering humanity in general, for a long, exhaustive and exact inquiry recently made by him in regard to the real work and value of those substances hitherto recommended and generally believed to be efficacious as roach and bedbug destroyers. The results are somewhat surprising and disappointing to those who for years have spent money and time daubing the bedsteads, etc., with all the various bug killers, destroyers, eliminators, etc., of the market.

Herr Berneugue's method of investigation was very practical and certain. The bugs were caught and kept in glass tubes, so that the effects could be most closely watched. The following is a brief resume of results: Best fresh insect powder made the bugs a little groggy for awhile, but they soon became as lively as ever, and seemed to experience no evil results from the powder. When mixed with ten per cent. naphthalin a few of the bugs were killed, but results in general were poor. Various chemicals in powder form gave little better results. Hydrogen peroxide was a flat failure. Formalin acted well, but is too costly to be used, and, beside, it has unpleasant effects on those who apply it. Coal oil was deadly, but, aside from the unpleasant odor, there is the danger of fire, and so on through the line. If an article was efficient there was sure to be some counter-indication to its use.

Finally Herr Berneugue tried turpentine oil, alone, and with naphthalin, and found at last the true roach and bed-bug destroyer. The following are his directions for freeing the locality—barracks say, of the "terror that walketh in darkness." All the furniture, the walls, the floor (the cracks and joints of which furnish favorite hiding places for the bugs), should be gone over with the turpentine oil and naphthalin, applied with a brush. The application, by its penetrating odor, chases the insects out of their hiding-places into the open, in thousands. A little sprinkling of the oil is sufficient to kill these. Immediately after having done this, with a hot solution of carbolic soap (to 24 gallons of boiling water, add a quart of liquid carbolic soap) wash the floors, baseboards, etc.

To prepare the turpentine oil and naphthalin, proceed as follows: Into a half-gallon jug pour a quart of oil of turpentine, add 150 grains of naphthalin, and set the jug in cold water, giving it several energetic shakes. To prepare the carbolic acid soap, heat together equal parts of common yellow potash soap and of carbolic acid, until a clear solution is obtained.

After the turpentine and naphthalin have soaked into the walls, etc., the latter should be freshly painted or kalsomined.—Nat. Drug. pd.

### Face Improvement.

The face and the chief features which give expression to it are usually looked upon as being the chief embodiment of natural beauty.

The complexion or color of the skin covering the face is caused by the granules found in the epidermal layer, the quantity, velocity and quality of the blood flowing through it, and the thickness of the layer of tissue between the vessels and surface. Therefore to have a clear and unblemished skin, which should be the primary aim of all who value their appearance, we must first look at its relation to our bodies.

Directly those two important organs of our well being, the liver and stomach, are deranged, it is at once shown in the face. Indeed, it needs no Roentgen ray to penetrate the walls of the edifices in order to discover the reason of the ill beauty of the occupant. The great safeguards are regularity in habits, and avoidance of excess in diet and in the use of stimulants. The circulation should be kept right by exercise and baths. In these four essentials we have the secret of a good complexion.

There are some whose skin is constitutionally coarse and florid. In such cases it may be necessary to use some simple application to render the skin soft and elastic. With others, the skin is so sensitive that it

readily peels, and becomes sore on exposure to the air. This, also, may be relieved.

For washing the face the softest water should be used and a pure superfatted soap, such as Castile soap. The complexion brush greatly aids the removal of the scales, dust and fatty secretions. When drying rub the cheeks briskly with a rough towel. Two teaspoonsfuls of powdered borax added to a pint of water will be found to aid wonderfully its cleansing properties.

When soft water is unobtainable a small quantity of prepared oatmeal powder (fine ground oatmeal and almond meal, equal parts, and with oil of geranium) placed over night in the water for washing, or in the bath, is an excellent skin softener. A tablespoonful of prepared almond meal put in the wash water also has a beneficial effect on the skin.

Those with sensitive skins, that burn and smart with very slight exposure to the sun or cold wind, should use a simple lotion of benzoin, after washing, morning and evening. It may be dabbed over the face with a small toilet sponge. After drying with a soft towel, dust the skin with violet face powder. The powder is dusted on the face with a bare's foot, which is prepared fitted with a handle for that purpose. When, however, the powder is applied to skin generally, as for the purpose of drying it after washing, what is termed a "puff" of swan's down is now mostly employed.

No application, however good, can materially alter the texture of the skin. Grease paints and preparations to hide defects merely disguise them temporarily, and unless the cause be removed they will often be aggravated.

Pimples and blotches often cause much disfigurement. With some of the surface of the skin is raised into little elevations, which are quite apparent or so small as to make the skin feel rough, while others have a small containing matter. The little black spots, commonly called blackheads, are caused by the sebaceous matter of the skin becoming lodged and discolored by contact with the atmosphere. The blackhead may be removed by nipping the skin round the part between the fingernails, and pressing the discolored matter out, or they may be eradicated by bathing with hot water, and using benzoin cream.

This may be used for the dry and mattry pimples. When the heads break, care must be taken to prevent any of the matter coming in contact with the skin.

The yellow or yellowish brown spots of color granules, called summer freckles, which appear on the face, neck and back of the hands, are caused by the action of the sun's rays on the "prickle cell" layer of the skin. They are simply another form of uniformly diffused tan or sunburn; and it is curious that, while with the majority of those with dark complexions the skin becomes generally brown when exposed to the sun and heat of summer, most persons of fair complexion are liable to freckles.

There is first a redness of the skin, from excess of blood in the vessels, accompanied by tingling and a sensation of heat. This is followed by a peeling off of the scar skin.

By the careful use of the simple cooling lotion of benzoin, recommended for the skin, and the powder each morning, their formation may be prevented, when sun shades, parasols or veils are inconvenient.

To eradicate those that have formed the "milk of cucumbers" applied with a silk sponge will be found effective. The spots may also be removed by the application of benzoin cream.

You cannot afford to be without one of these during the summer and fall months. Use it daily and it will keep your skin smooth and white.

There are other freckles, not dependent on the sunlight and heat, which may appear at any time. They are due to a disordered state of the liver or to general ill-health.

To remove the cause medical advice should be obtained. The same course should be followed in severe cases of sunburn, when the swelling of the blood vessels is followed by blisters, and a more or less deep-skin inflammation.

The tell-tale wrinkles of time are caused by a diminished elasticity of the horny layer of the scarf skin and a wasting of the papillary layer of the true skin as age advances, and thus the grooves that in youth leave no mark in after years become permanent. It is absurd to fill these lines up with powder and grease paints and attempt to hide them, as it will only render them more prominent afterwards.

The best way is to do all we can to preserve the elasticity of the scarf skin by avoiding unnatural soaps, an adequate supply of suitable nourishment, and maintenance of tissue activities. When the lines seem to be becoming prematurely permanent, an equal quantity of cold cream and lanoline should be rubbed in twice a day. The rubbing should be done in the direction of the grooves until the cream is absorbed, and the skin afterwards massaged. This is the best method of preventing permanent wrinkles.

Blushing, that condition so distressing in one sex but charming in the other, is caused by some mental emotion which sends the blood with a sudden rush through the vessels, and so gives the skin a dark flush of color. Self-consciousness, shyness and excessive modesty are the principal causes.

The best way to get over this in both sexes is to mix with plenty of society, and talk to one's fellow creatures as often as possible. By these means this feeling will be overcome.

Palleness is caused by emotion, such as nervous fear, shock or depression; and inward struggle ensues for mastery over the feelings, causing a rush of blood from the skin to some vital organ. Then the color forsakes the face, and it becomes temporarily pallid and white. Pallor that is permanent, when the skin seems to be almost transparent, arises from another cause, and is usually the precursor of anemia. In this condition a physician should be consulted

without delay.

When the skin becomes blue from exposure to cold, it is caused by the cutaneous circulation becoming retarded. Thus on a frosty day, our vigor and nervous power are weakened by the cold, and blood is drawn inward; that which remains moves so slowly through the capillaries that the change from bright red to dark red shows before it finishes circuit and fills the veins.—Popular Science.

### Prevention of Typhoid Fever.

Typhoid fever, being a disease that always requires the personal attendance of a physician, may be properly referred to in a paper for Companion readers only from the point of view of prevention.

It is well known that typhoid fever is a water-borne disease, and is commonly taken into the system in drinking water which has become contaminated from the excreta of persons suffering from the disease. Freezing does not in any way impair the vitality of the bacillus of typhoid, so that ice from a river or pond may convey the disease to consumers hundred of miles, perhaps, from the source of infection.

Milk has more than once been the means of conveying the disease. Fortunately most milk-dealers are aware of the necessity of cleanliness in the preparation of milk for shipment. In most modern dairies the bottles before being filled are subjected to a sterilizing effect of steam. Epidemics of typhoid fever traced to dairies have in most cases been due to the bottles having been washed with water from an infected well or pond.

Oysters that have been bedded in bodies of water which receive the contents of sewerage pipes have likewise been the means of conveying typhoid fever. Only oysters eaten raw or on the half-shell, carry infection to the consumer, since cooking destroys the bacillus.

A pure water supply is rightly looked upon as one of the greatest essentials to the healthfulness of a community. Many foods—salads, for example—cannot be cooked or subjected to the effects of a high temperature, while, on the other hand, washing them in infected water may render them the means of conveying disease.

Among the chief ways of preventing typhoid fever must be mentioned the care of the stomach itself. It seems highly probable that the natural juices of the healthy stomach are able to destroy many germs of disease; but the number which any stomach may be able to digest, and thus render its owner safe from attack, must always be uncertain, and it is not desirable to test its capacity in this direction.

The fact that only certain persons out of a number who have partaken of food or drink infected with disease germs may suffer is explainable on the ground of their different general physical condition, or of the varying states of their physical digestion.

Boiling or cooking in any form destroys all germs of disease that are found in the food or drink.

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One of the most novel summer entertainments is a clover luncheon. The table cloth and napkins used at a recent entertainment of this nature were in the clover-leaf design. At an informal luncheon to be given this season the round table of "polished mahogany will be left uncovered. The circular centre piece and plate doilies of sheerest linen will be ornamented with graceful clover blossoms and their leaves, with here and there a four-leaf. A quaint, round, clover-shaped centerpiece filled with large, perfect clovers of crimson and white, with an arrangement of their own leaves, will be used. A few long-stemmed clovers tied with green ribbon will be laid at each plate. Name cards done in water colors will have the clover design. The sandwiches to be cut in shape of a clover leaf, tied with green ribbon. The jelly—with strawberries mounded in it—moulded in the same shape, also the ice cream. The cake will be cut in the same clover-leaf form, and tied in red and green.

A delicious paste for sandwiches may be made by creaming together half a cupful of grated cheese, a tablespoonful of butter, one-half spoonful of sprinkled onions and a teaspoonful of anchovy paste.

Chopped beef loaf is an excellent substitute for veal loaf for people who do not like veal. Have one pound of the best round chopped fat at the butchers'. Soften it with a little hot water and butter. Make a dressing similar to that for stuffed flank steak, add the meat and bake in a foil-shaped tin.

Fried green vegetables should be cooked so soft that they are tender at least of those accustomed to it. In these cases, at least, it is excelled, but the art seems to be in the degree of difference among the younger generation. The great difference between the old and the new way is in the preparation of the fruit, the modern method being to place the whole fruit in layers on the split cakes and to serve them with cream. Old housekeepers, on the contrary, put the halved berries in a bowel before making the custard, chop them with a silver knife and cover them with sugar. When the cakes (they are baked in layer tins) come from the oven they are split and the fruit is piled on the cut side of each, one being piled above the other. The weight of the fruit and juice is then allowed to run down the table as a sauce for the sandwiches. When the custard is put on the cakes, and not to sweeten it until afterward. Recipes for the biscuit paste can be found on all baking-powder cans. The dough should be rolled into sheets about half an inch thick. Cut it white with a hot bread knife. Individual shortcakes may be made by making baking-powder biscuit somewhat larger and thinner than the usual kind, splitting each and preparing it in the same way as the large cake.

What are the functions of the microbes?

The flora of the cavity of the mouth are useful in that they assist the healing of wounds.

The acids secreted by certain bacteria in the small intestine protect it against the invasion of certain harmful microbes which prevent digestion.

The spread of the germs of Asiatic cholera is often prevented by the action of hostile microbes which they encounter in the intestines.

In general, however, the effect of the microbial colonies is harmful, not helpful. Headaches, exhaustion, neurasthenia, dyspeptic asthma, certain forms of epilepsy, etc., are probably due to poisons originated by the microbes of the digestive system.

And whenever the normal forces of the body flag, the increase in the number of microbes results in serious harm.

How are we to square the conviction that so many of the microbes of the human body are injurious with Darwin's argument that useless or harmful portions are eliminated by the processes of natural selection?

It is a curious fact that many of the organs which sustain microbes are themselves now

either useless or even injurious. For instance, the capillary follicles of the skin are quite useless organs and represent merely what is left of the hair formerly covering the bodies of our progenitors. The vermiform appendix is now useless, or worse, though it was once of service. The stomach can be dispensed with to the advantage of the race. Several persons are now living without stomachs and suffer no inconvenience. The small intestine is essential to life, but two-thirds of it can be excised without harmful effects. Nearly all of the larger intestine can be removed in the same way, as most of it now fulfills no useful function.

The large intestine is our inheritance from a class of herbivorous vertebrates and is capable of running at great speed, and is not now useful to men.

The lecturer looks forward to assisting the natural tendency to the atrophy of such organs by surgery, while medical will cope with the microbes that infest them.

The lecture in question will eventually be published by the Literary and Philosophical Society of Manchester, England.—New York Sun.

### Domestic Hints.

#### ICE CREAM IN SPUN SUGAR.

It has been found, as a rule, that children like chocolate and strawberry ice cream best. If it is bought of a caterer it will be well to have fancy forms of the two kinds mixed.

If made at home nothing is prettier than sugar baskets.

Put two pounds of granulated sugar,

two cups of boiling water and one-fourth teaspoonful of cream tartar into a smooth stewpan and boil without stirring until the syrup begins to thicken, which is about 200°.

As sugar adheres to the sides of the pan wash it down with the hand first dipped in cold water. Take from the fire quickly and place into a pan of cold water to stop boiling. Then transfer to a pan of boiling water. When the syrup

cools slightly, put in a wire whisk made for the purpose, and wave it back and forth. Gather the threads up and twist into a nest.

**A CURE FOR  
Summer Complaints  
DYSENTERY,  
DIARRHEA,  
CHOLERA MORBUS.**

A half to a teaspooonful of Ready Relief in a half tumbler of water, repeated as often as the discharges continue, and a flannel saturated with Ready Relief placed over the stomach or bowels will afford immediate relief and soon effect a cure.



INTERNALLY—Radway's Ready Relief in water will in a few minutes cure Cramps, Spasms, Sour Stomach, Nausea, Vomiting, Heartburn, Nervousness, Sleeplessness, Sore Headache, Flatulence and all internal pains. Price 50 cents per bottle. Sold by all druggists.

**RADWAY & CO., 55 Elm St., N. Y.**

**Poetry.**

**REGRET.**

I had grown May enamoured: glad and free  
She went with flower-shod feet over hill and plain,

But now her widow-blown I watch in vain,  
And sorrowed widow cannot yet come to see,

While listening, dream that I may hear again  
Her child-voiced singing even in the rain,

Who had the soul of sweet Persephone?

Then delay? She had not meant  
With her sun-brimmed eyes they way to choose,

But nightingales, her nightingales refuse.

Then beth' st with June and scorn't my discontent,

But what thy scorn who hast no May to lose?

**MRS. WHITON-STONE.**

**MY LADY'S SLIPPERS.**

Two bits of satin deftly cut, and sewn  
To humbug leather of the length and span

Tatiana might have chosen for her own;

Two curving arches fashioned on the plan  
A King has lent his name to, lifting high

Her dainty feet above all earthly things,

While lighting each its way a brilliant flings

It says to guide her as she passes by,

Fairy wonders of the craftsman's art,

What elfin trick is this that you have played!

That you should thus misguide a trusting maid!

You've led her, wandering, straight into my heart,

—R. D. W., in New York Life.

**ANOTHER MAY TIME.**

The May's fair mornings dawn for me once more,

Bird, bough and blossom, with their hints of spring;

And thoughtful twilight with its lingering,

Its palegreen light on sea and shore;

And in the luminous air I feel the thrill

Of life, pervading wood and vale and hill.

What lacks the May time? Rose-blushed buds un-

fold.

A thousand fragrances are on the air;

The legend of new hopes again is told;

And sweet rejoicing that the world is fair;

But I—turn from all this radiant bloom

With blinded eyes that only see through tears

A sculptured cross—blue eyes forever closed—

And all the lonely hours of all the years!

—Lillian Whiting, in Harper's June.

**A SPRING MORNING.**

On fair the glorious morning wakes to life,

With all its chirping birds and loving flocks,

Its green fields and moss-hangled rocks,

And all the floating scents, on breezes rife;

Cares may have pressed; and, sharp as is the knife!

Friends may have left us sad; but this great festiva-

tion has power to rouse the toller's strife!

—William Joseph Galliard, in Chambers's Journal.

**THE JESTER.**

They rode together down the cloistered aisles

Of the dim woodland. From the cool retreats

And leafy boughs, the muted birds

Baffled their thoughts, and high overhead

The sun coursed a diaphanous sky, and sent

Through swaying boughs his javelins of gold.

A slender stream ran all its crystal bells

From banks of moss and fern beside the way

Whither they passed unheeding. The sleek

steeds

Set noiseless hoofs on mast and russet leaves,

The last year's fallen glory. Each was young,

And she was very fair. His arm was zoned

About her; the twin roses in her cheeks

Flamed as she drooped against him, her bright

hair

Flowed o'er his shoulder, and her dancing

limbs.

Swept his bronzed cheek.

Then were they of one

Who leaped and tattered, in the shadow stood

Leaning upon a staff. His sightless eyes

Were bent upon the twain, a flickering hand

Was outstretched towards them, while across his

hand,

Stained with unseasonable rains and dew,

The leek and ram. "Sweet folk, alms for the blind!"

With the sound of pity they drew rein;

Upon the pleading pale a calm was laid,

And indifference-free they pricked along their path.

Till suddenly, from behind, a peal of mirth

Carried them with a buffet, and they turned.

The mirth on his face the beggar plucked a mask,

His broad garments from his body slipped,

And he beheld the dazzling wings of Love,

James B. Kenyon, in Atlantic Monthly.

**THOU OF LITTLE FAITH!**

Sad indeed, be at peace: the snowdrop lies

Upon sepulchre of ghastly snow;

But spring is floating up the Southern skies,

At the striking of the pale snowdrop waits below.

Let me persuade; in dull December's day,

But up the stairs of April and of May

The pale sun climbed to the summer's noon.

Ye hear me! I love God, and half I rest,

Other half God loves thee, so all rest thou,

He is a summer, our dim-visioned Best—

And in His heart thy prayer is resting now.

—George MacDonald.

There was a young woman of Ia,

Who would sit on a sofa and Sa,

When a venturesome Mr.

Would kiss her small Sr.

Her sighs would grow faint and soon Da.

—New York Press.

Though spring's here by the almanac,

The proposition doesn't fit,

Until the barefoot farmer boy

Has "stabbed" the nail clear of his toe.

—Indianapolis Press.

**Miscellaneous.**

**"A Variety Turn."**

**Less Majesty in Lutzingen.**

Except in tourist time, the duties of her majesty's consul at Weissenberg-on-the-Oder cannot be all excessive. As it was yet early spring in the principality of Lutzingen, I had absolutely nothing to do, save to poke up an official fire, read unofficial novels, and (on fortunate occasions) converse with chance callers at the consulate.

This was one of the "fortunate occasions," for M. de Lamotte had come to cheer my solitude. I had met M. de Lamotte only a few days before, while exploring the wooded country on the side of the Oder. He was an Alsatian, he explained, and a writer by profession—but as he did not favor me with particulars regarding his works I gathered that his literary aspirations were so far unbroken by success.

M. de Lamotte and I had been discussing Johann XXIII., the absent Prince of Lutzingen; my Alsatian acquaintance agreeing in a rather listless way with the warm and decidedly undiplomatic sentiments which I expressed. "No doubt, Mr. Mallory, you are right," he said. "A ruling sovereign should, I suppose, live among his subjects. But has he not placed the government in the hands of good ministers? There is Herr von Rottweller, the president of the Council of State."

"A professional politician, nearly as unpopular as the prince himself. If I might speak quite undeservedly—"

"please do, Mr. Mallory. I shall carry no tales."

"Well, it is indiscreet to talk; but the state of affairs disgusts me so much that it is a comfort to find some one to whom I can relieve my feelings safely." And then and there I told Lamotte everything which I had discovered about the corruption practised by Von Rottweller and the other councillors, the scandalous over-taxation of the people, the wholesale bribery in connection with government contracts and the infamous proposal to turn the capital town of Marbach into a gambling centre. Lamotte listened politely while I unrolled the scroll of the narrative, but displayed no very great interest.

"I suppose you are right," he said. "I had never heard that Herr von Johann was a profile, being first announced in loud tones by the leader of the orchestra, in accordance with Marbach's custom. Kitty was a little nervous, I fancy, but she managed to disguise her emotion fairly well. Hardly had she sung the first words,

"A princely puysscat, sleek and fine,

The twenty-third of an ancient line,

than I heard whispering all around me, and saw my neighbors looking at one another in half-startled manner. But when she described the contents of the larder over which the cat was set to work—

Marbach cheeses, and Lutzingen hams,

and detailed his scandalous neglect of duty, and his leaving of all these good things to the vermin, there was a sort of general chuckle, followed by cries of approval and intelligence. In the ministerial box, however, Von Rottweller and his friends had ceased to applaud, and were glaring at me with expressions of alarm. The Minister, tugging at his whiskers, had complimented the gesture, thus giving additional point to the chorus about "Old Father Rat." The Marbachers understood the full gist of the satire now. Roars of laughter came from the pit; in the parquet seats fat burghers were holding their sides and rolling about with merriment, and when Kitty had duly chanted the refrain it was taken up by a tremendous volume of voice. All eyes were turned upon the ministerial box, while parquet, pit and gallery thundered in unison:

"Old Father Rat, with his whiskers gray,  
Said: 'Let us be gay, there is nothing to pay;  
When the cat's away the mice will play.'

So nubile, and come again, O!"

And, not satisfied with singing it once, they repeated the words again and yet again, each time louder than before. The band stopped, in response to the leader, and then I heard the Prince Minister tugging at his whiskers again, complimenting the gesture, thus giving additional point to the chorus about "Old Father Rat." The Marbachers understood the full gist of the satire now. Roars of laughter came from the pit; in the parquet seats fat burghers were holding their sides and rolling about with merriment, and when Kitty had duly chanted the refrain it was taken up by a tremendous volume of voice. All eyes were turned upon the ministerial box, while parquet, pit and gallery thundered in unison:

"Old Father Rat, with his whiskers gray,  
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Another verse! Another verse! echoed the audience. A young fellow, now other than Ghast, the composer, leaped over the orchestra barrier, and, seizing the frightened conductor's baton, commenced to beat time. A single violinist only had the courage to respond, but this sufficed for Kitty Gossler, and she struck up the second verse, just as the police director left the box to execute Von Rottweller's commands. Kitty sang rapidly, outstripping the accompaniment altogether. She told how the rats and mice had pillaged and plundered until nothing was left in the larder but cheese rinds, sausage skins and empty meat sacks. From laughter the audience passed to rage. Furious howls arose from the pit, and clenched fists seemed to leap out above the heads of the crowd. Hardly waiting for the verse to end, they broke into the most frightful discords each time!

"We all heard you, and were sorry for you," squeaked the little French writing desk. "As for me, my legs tremble under me every time he comes near and throws back my sticky old, poor, crippled rat!"

When we have crossed the Mystic Tide  
And earthly longing are at rest,  
Will we then have our heart's desire,  
Or shall we see that God knows best?

—Nellie Tirza Eddy, in Boston Transcript.

**Worth's Department.**

**LONGINGS.**

Dear little child, with hands outstretched,

As down your cheeks the teardrops flow,

You want the moon within your grasp;

The wish is vain—you do not know

'Tis future wisdom that must bring

The knowledge that will show to thee

How perfectly absurd the thing

You now demand persistently.

And this is what we tell the child,

## The Horse.

## Readville Notes.

The stables at Readville are rapidly filling up, and the trainers located there are making up for lost time, although it must be said that they appear to believe in going ahead slowly, as their horses so far as fast miles are concerned are behind even those at neighboring half-mile tracks.

Trainer James Brady is at the track with the following string from Lookout Farm: Timbrel (2.11); Genevieve (2.12); Barney King (2.23); King David, bay colt (3), by May King; dam, Etta Red, by Red Wilkes; Red Way, chestnut colt (2), by Lookaway; dam, Etta Red; Avarena, bay gelding, by May King; dam, Apparition (dam of Phantom, 2.16), by Sir Walkill; Kingfisher, black colt, by May King; dam by Kentucky Prince; Marie King, bay mare (2), by May King; dam by Robert McGregor; and Miss Lewis, bay mare (3), by Bingen; dam, Hind, Belle, by Linda Wilkes.

Brady also has the following outside horses: Authoress, black mare (4), by Autograph; dam, May Homer (dam of Loco), by Homer; Stephen Hope, bay gelding (7), by Arrowwood; dam, Roxana, by Jack Fowler, and Addie Parker, by Hal Parker.

Timbrel looks to be in fine shape and moves like a piece of machinery, and when Brady let him step through the stretch the other morning it looked as though he could trot just as fast as he had a mind to. Brady has been a mile in 2.23 with Authoress, and one in the same notch with the green pacer Stephen Hope.

Allie Trout came down from Clinton last Friday with six head of the Maplehurst Farm horses. His stable is made up as follows: Baron Courageous, black colt (4), by Baron Wilkes; dam, Dora, by Kohinoor; Baroness Evelyn, black mare (4), by Baron Wilkes; dam, Rosewood, by Wedgewood; Baroness Lady, bay mare (2), by Baron Wilkes; dam, Lady Powell, by Hermes; Baroness Romona, brown mare (2), by Baron Wilkes; dam, Sultan, by Sultan; Baron Hope, brown colt (2), by Baron Wilkes; dam, Bertell, by Axteil; and Malatza, chestnut mare (3), by Guy Dirwood; dam, Annie McGregor, by Robert McGregor.

Fred Isabel is at the track with the following horses: Clinton B. (2.08), Danville (2.18), Incarnate (2.23), Vete Bud (2.25), by Sidney; Mania, bay mare, by Charles Derby; Border Lassie, bay mare, by Charles Derby; Starletta A., bay mare (3), by Alfred G.; Ben H., bay gelding, by Kentucky Wilkes; Surprise, bay gelding, by Robert McGregor; and two other green ones.

The fastest work-out mile reported at the track this season is one in 2.23 by the black gelding Durus (2.26), in John Payne's stable.

Trainer Carpenter has commenced to repeat his horses in the neighborhood of 2.30. Jack Wall has been miles in from 2.27 to 2.30, with several of the green ones in his stable.

There has not been a season since the Readville track was opened when so little had been done with the horses up to the 17th of June, but with good weather much can be accomplished in the next two weeks, and doubtless a fair number of horses will be on hand when the season opens at the Breeders' meeting at the track July 2.

## Notes from Lexington,

There are few half-mile tracks in the country where so many good horses are being worked as at Jere's track at Lexington. Jere is working sixteen head and his brother Billy has six in his string. In common with all the horses in this section, their horses have not had much fast work, but the track and roads at Lexington are such that the horses have had good stiff jogging exercise and are all ready for the tuning-up process. Indeed, at the track last Friday, nearly all of those which are likely to hear the bell ring got a number of miles under their belts. The track is beautifully located and comes near being an ideal training ground, as there is plenty of shade, an abundance of grass and excellent stable accommodations. The track is an excellent half-mile ring with easy turns, and the footing is just right to muscle up the horses and does not sore them.

Jere has the following horses: Chehalis (2.04), Royal R. Sheldon (2.05), Courier Journal (2.06), Gyp Walnut (2.08), Diabolos (2.12), C. W. Williams (2.14), Lady Bayard (2.17), May Day (2.21), by Robinson D., and a number of youngsters and green ones which the public will hear about in the future.

Chehalis has been in the stud and has had very little work as yet. Royal R. Sheldon looks to be in grand shape, and is moving to please his trainer. He does not seem to be as big gaited as last year, but is more rapid. He has been a mile in 2.21. Gyp Walnut is looking fine and has been a mile in 2.24. The other record horses in Jere's string have been given repeats below 2.30, and all look to be in the pink of condition.

Billy O'Neill is working Marion G. (2.10), J. E. C. (2.15), Lexington (2.18), Dr. Logan, an electric-light performer at Combination Park last season, and a couple of green ones. Marion G. is being worked with hoppers and takes very kindly to them. She is carrying a ten-ounce shoe and a four-ounce toe weight, and Billy expects to reduce the latter to two ounces. This reduction from the thirty-ounce, which was required to balance her without straps, he thinks will enable her to carry her speed better. O'Neill is very sweet on the five-year-old gelding J. E. C., by Tribune. The gelding was not right last season, but is in splendid shape this spring, and if looks count, should give a good account of himself in this season's races.

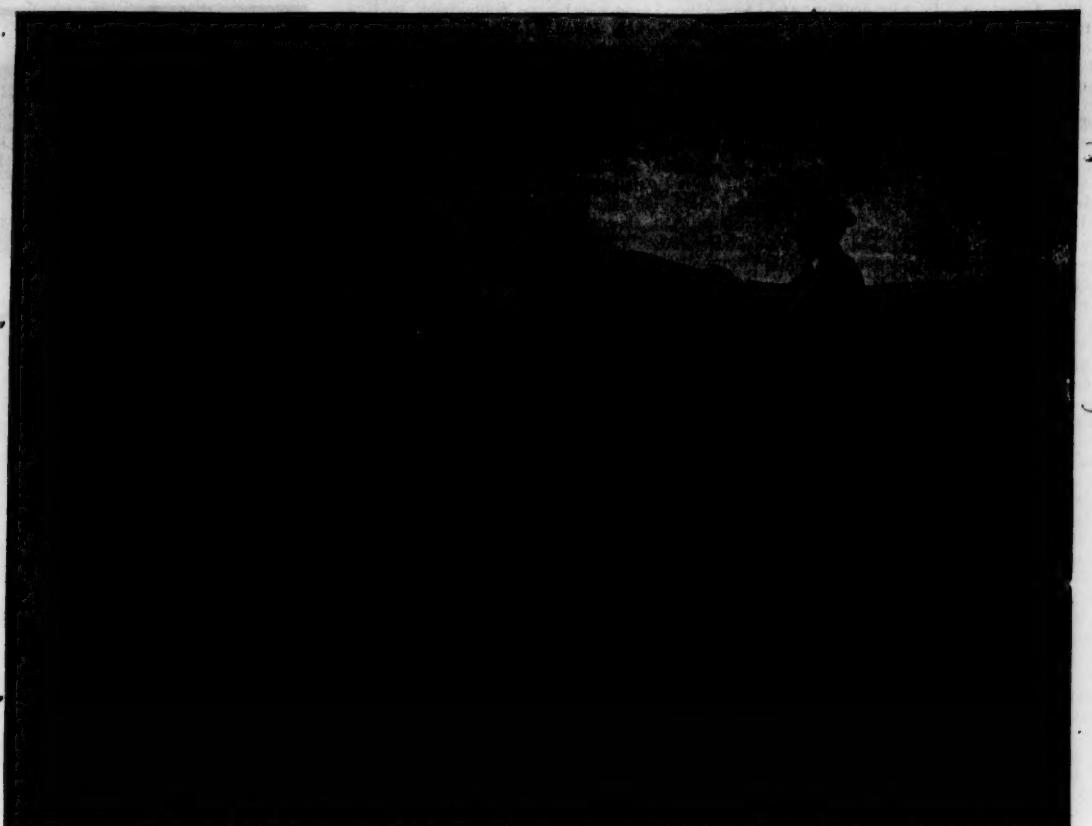
Running out in the pasture back of the stables knee deep in grass we saw the noted turf performers, Nelly Bruce (2.10) and Josie (2.21). The former has a large, shapely bay filly by Chehalis at foot, and the latter a very lusty bay filly by Bingen.

One of the most promising green ones at the track is a black four-year-old filly by Emperor (2.20); dam, Highland Lass, by Buccaneer. This filly was bred at Reservoir Stock Farm, and showed sensational speed at Mystic last fall, when her present owner gave \$2000 for her. She is very fast this spring, and Billy O'Neill says she has as much speed for a brush as any horse at the track.

## Matinee of the Gentlemen's Driving Club.

The first matinee of the season, under the auspices of the Gentlemen's Driving Club of Boston, was held at Readville on Wednesday. The day was favorable, but owing to the backward season, few horses were expected to start.

Three events were on the programme, and they unexpectedly developed into contests of Grand Circuit calibre. Six of the seven heats contested aroused the keenest enthusiasm among the spectators, especially the



METALLAS, 2.18 1-4, BY MAMBRINO KING, SON OF MAMBRINO PATCHEN; DAM, METELLAS, BY ALMONT, SON OF ALEXANDER'S ABDALLAH.

first heat of Event No. 1, in which Lottie Fallis and Burlington Boy had a ding-dong finish all the way through the stretch, under hard drives, the sweet little mare winning by a head only in 2.19, which is a second and a quarter below her turf record, and remarkably fast, all things considered. Mr. Alley, her owner, drove her with great skill and judgment, and landed her a winner of the event.

Mr. Aldrich uncovered a green one of much promise in the bay gelding Addison A., who for the first time heard the bell ring in Event No. 3, and Mr. Alley showed up about as likely a prospect in the bay gelding Almont Benton, Addison A.'s competitor. Addison A. won the first heat in a whipping finish in 2.21. He stepped away to the quarter in the second heat in 3:3 seconds, was over to the half in 1.07, but he was not keyed up to any such clip as this, and he could not carry it. Almont Benton beat him quite handily through the stretch, winning in 2.25.

Addison A. was drawn the third heat, and Almont Benton had a walkover in slow time.

Addison A. is a big, smooth-gaited trotter. He has a stride that carries him well over the ground with each stroke. Almont Benton is a very busy-going horse, steady, level-headed, and he acts like quite a high-class one.

It was a day of surprises all around, surprises for the splendid contests furnished, for the time made and for the results.

Mr. Alley won two blue ribbons. Mr. G. A. Thayer won a blue ribbon with Mr. Peter B. Bradley's bay mare Gardenia.

## SUMMARIES.

Event No. 1—Trotting to wagon, mile heats, two in three.  
H. A. Alley's Lottie Fallis, by Fallis (Mr. Alley).....1  
H. O. Aldrich's, Burlington Boy, ch g (Mr. Aldrich).....2 2  
W. D. Hunt's, Pastol, ch g (Mr. Hunt).....3 3  
Time, 2.19, 2.23.

Event No. 2—Trotting to wagon, mile heats, two in three.  
P. B. Bradley's Gardenia, b m, by Candidata (Mr. Thayer).....1  
S. H. Blodgett's Polyphemus, br m (Mr. Blodgett).....2 2  
Time, 2.21, 2.25, 2.56.

## Fact and Fancy.

Old Glory will wave and the scream of the eagle will be heard all over Maine on the glorious Fourth, and probably more Fourth of July races will be pulled off than for many years. Last year and year before last there was comparatively little doing, but this year everything is different, and while many celebrations will be held without the adjunct of races, those will be held at many points, like Augusta, Bangor, Farmington, North Anson, South Paris and Norway. All these places are out with their programmes, and not many interesting races will be the result.

Friend Dana S. Pratt, formerly of Mechanic Falls, Me., as a prominent member of the section, as well as a well-known writer from Raymond, N. H., where he is proprietor of Hotel Raymond, that the track at that place is nearly completed, and races will be held there later in the season. Mr. Pratt is one of the directors of the track organization.

I learn that Ralph Foster, the well-known driver, formerly of Canton, and who has just recovered from a year's serious illness, is now suffering from an attack of diphtheria. This is too bad and he has the sincere sympathy of his many friends. As a driver Ralph marked Eddie B. (2.14), Sabrina (2.23), Leola (2.22), Nana (2.21) and several others. Ralph is a sober, industrious young man and a good care-taker and developer of speed, as well as a good race driver, and he has our best wishes for a speedy recovery.

I have received the 1901 catalogue of Lawson's trotting stable, one of the neatest and most attractive little booklets ever turned off any press. The horses listed consist of thirty-eight head, the stallions, eight in number, include the names of Dreamer (3) (2.14), Highland Baron, Belford, Poldexter, etc. The geldings include Boraline (2.08), Sagma (2.13), Glory (2.14), and several without records, while the brood mares and fillies make up the rest of the list.

The last issue of the esteemed Horse Review contains the following in its editorial page: "Dr. George H. Bailey of Maine, in which he returns to the charge in defense of his time-worn 'theory' of the rational impossibility of the two-minute trotter. The learned doctor argued at great length, and at the first glance seemed to have scattered his shot all over the target, but, as we observed, if his ten columns were balled down they crystallized into a series of arguments all hanging on one peg—the pneumatic sulky.

With this statement editor J. W. Thompson takes issue, and among other things says: "The Horse Review cites several instances to show that the pneumatic sulky is no faster than the high wheel, but in the face of this every practical man knows that it is, and such argument only proves either the ignorance or the straits in which he finds himself of the one who makes it."

"We have more than ordinary respect for Brother Thompson's perspicacity" (thinks for the compliment), "but in this instance he endows us to attribute to us sentiments which we never expressed. We cited no instance to show that the pneumatic sulky is no faster than the high wheel. Any such contention would be so ridiculous as to cause its supporters to be laughed out of court for an ignoramus. No horseman of sanity or judgment ever for a moment questioned the superior speed of the pneumatic sulky. What the Review said and cited instances to prove was that Dr. Bailey's dictum that it has already been

demonstrated that any horse worth training can trial, to ball-bearing wheel, at least five seconds faster than the other, is a sweeping assertion that is mere conjecture, a position which is, we still submit, strictly in accord with fact."

Dr. Bailey is a ready and graceful writer and needs no defender, for he is amply able to take care of his end of the contention. That his statement was "sweeping" I grant. It is only in dealing with results as a whole and not individual instances that we are able to measure or estimate the difference between the high-wheel and the ball-bearing wheel.

In giving the Review the benefit of the doubt, the Review took exception. Just what the Review said was this: Quoting from Dr. Bailey: "It has already been demonstrated that any horse worth training can trial, to the ball-bearing wheel, at least five seconds faster than to the high-wheel and the ball-bearing wheel.

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